

SPECIAL REPORT: HOW TO SHOOT AN ACTIVE VOLCANO AND NOT GET BURNED

# SHUTTERBUG

TOOLS, TECHNIQUES & CREATIVITY

## WE TEST

- » NIKON D7200 DSLR
- » SAMSUNG NX500 MIRRORLESS CAMERA
- » TELEPHOTO AND ZOOM LENSES FOR CLOSE-UP PHOTOGRAPHY

## PLUS

HOW TO CAPTURE AMAZING LANDSCAPE PHOTOS WITH A LONG LENS

© John Hyde

July 2015



## THE WILDLIFE AND NATURE PHOTOGRAPHY ISSUE

PHOTO TIPS FROM THE PROS TO HELP YOU  
BRING OUT THE BEAST IN YOUR WORK





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### Summary of Recycle Tests from Video:

Flash Unit Models	Output Setting	Total WS	VLX™ Recycle	VML™ Recycle	ION Recycle
1 Einstein™ E640	Full Power	640 Ws	1.96 sec.	4.3 sec.	4.83 sec.
2 Einstein™ E640s	Full Power	1280 Ws	3.5 sec.	8.86 sec.	10.13 sec.
3 Einstein™ E640s	Full Power	1920 Ws	5.3 sec.	13.0 sec.	15.8 sec.
4 Einstein™ E640s	Full Power	2560 Ws	7.2 sec.	15.9 sec.	19.2 sec.
4 Einstein™ E640s	Half Power	1280 Ws	3.3 sec.		
1 AlienBees™ B1600	Full Power	640 Ws	2.0 sec.	4.13 sec.	4.4 sec.
2 AlienBees™ B1600s	Full Power	1280 Ws	5.27 sec.	14.1 sec.	14.4 sec.
2 AlienBees™ B800s	Full Power	1920 Ws			

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by PAUL C. BUFF

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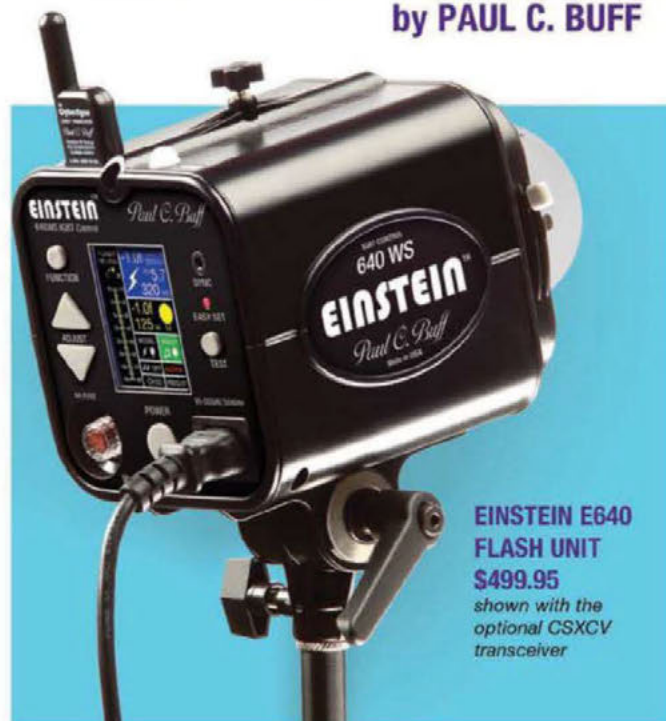
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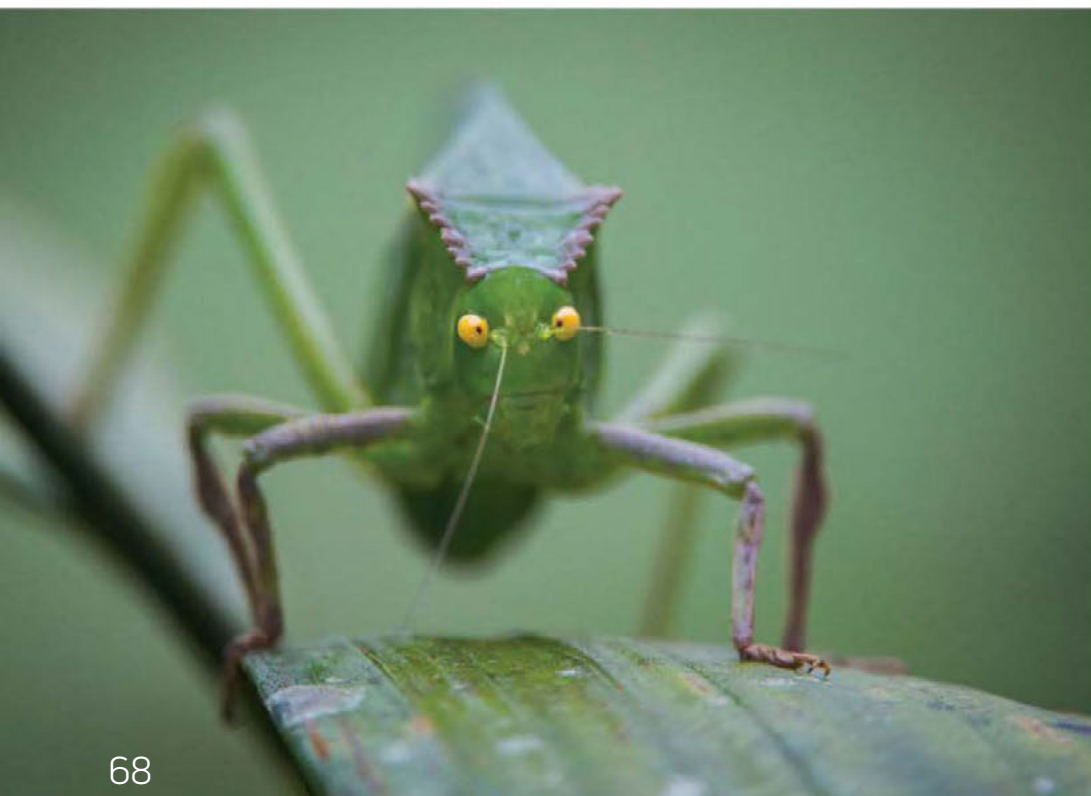
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**OM-D**  
E-M1

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## ON THE COVER

Wildlife and nature photographer John Hyde captured our pensive cover image of a wolf, known as Romeo, as he stared into the lens while patrolling the edge of Mendenhall Lake in Alaska's Tongass National Forest. For three years Hyde was able to enjoy a rare bond with this wolf until he just disappeared one day. Hyde used a Canon EOS-1Ds Mark II and a 300mm lens to make this incredible shot.




Photos © (left) Blaine Harrington; (right) John Hyde



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## EDITOR'S NOTES

# WILD AT HEART

WHEN I WAS GROWING UP, I loved an early reality TV show on Sunday nights called "Those Amazing Animals." Remember it? It was a spin-off of "That's Incredible!" and featured the extraordinary lives of animals. The show's hosts were Burgess Meredith, Priscilla Presley, and some other guy whose name I've forgotten. It didn't last long, maybe a year or so on ABC before being canceled, but it made a lasting impression on me. In particular, I remember a segment the show did about a duck that survived being shot by an arrow. The duck was just hanging around a pond in a small town's park when some idiot decided to shoot it with an arrow for fun. (Yeah, people can be pretty awful.) The story had a happy ending though when a local veterinarian carefully removed the arrow, sewed up the hole, and the duck went on to live a long duck life. I think I cried for a week after seeing that segment.

The point is that people have a real affection for animals, both domesticated and wild. You can tell it from the hundreds of sweet entries we got from readers for our Wildlife and Nature assignment for *Picture This!* on page 14. We had so many great images of animals and nature, we could have easily run double the amount of reader photos this month. To see all of the *Picture This!* submissions for the July issue, look to our Galleries on Shutterbug.com.

We could have also easily filled the magazine with double the amount of great Wildlife and Nature stories this month. Let's start with our pensive-looking cover model. That's a wolf that John Hyde photographed for three years in the wilds of Alaska. Talk about knowing your subject! Read about Hyde and see more of his wild work on page 62.

This issue is not just focused on how to photograph animals though. There are also plenty of tips on how to capture nature, in all its extreme glory. Take Adrian Rohnfelder, a professional "lava hunter" who earns part of his living shooting the powerful beauty of volcanoes around the world. Rohnfelder fills us in on what to bring and what to expect when going on a photographic crater hop on page 78. When we think of photographing nature, particularly landscapes, most photographers concentrate on going wide with wide-angle lenses to capture the full scene. While that's one approach, have you ever considered using a telephoto lens to shoot a landscape image? It's not as strange as it may sound and can result in some really spectacular photos. Check out David Shaw's piece on how to use long lenses to photograph landscapes on page 74.

And speaking of telephotos, which are key tools for getting up close and personal with animals, Joe Farace recommends his favorite long glass in his *Geared Up* column on page 38. Just prior to that piece, you might notice some snazzy new photo gear showcased in a new feature called *The Goods* on page 34. It's one of a few more changes you'll see coming to *Shutterbug* in the next few months where we recommend our favorite new products to help you stalk your photographic prey. ■

*Dan Hawlik*

# SHUTTERBUG

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Clamps



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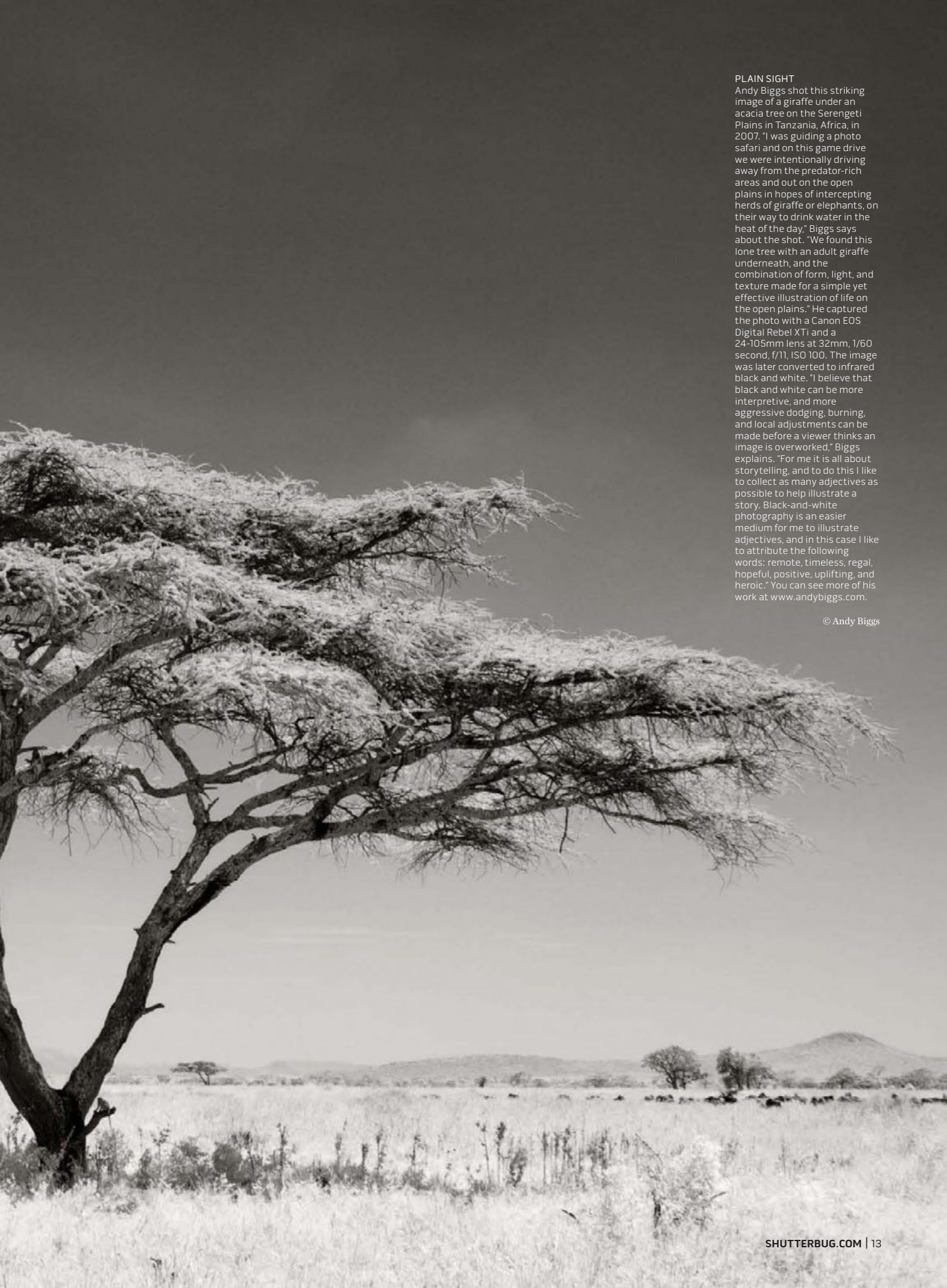


Flash Brackets









#### PLAIN SIGHT

Andy Biggs shot this striking image of a giraffe under an acacia tree on the Serengeti Plains in Tanzania, Africa, in 2007. "I was guiding a photo safari and on this game drive we were intentionally driving away from the predator-rich areas and out on the open plains in hopes of intercepting herds of giraffe or elephants, on their way to drink water in the heat of the day," Biggs says about the shot. "We found this lone tree with an adult giraffe underneath, and the combination of form, light, and texture made for a simple yet effective illustration of life on the open plains." He captured the photo with a Canon EOS Digital Rebel XT and a 24-105mm lens at 32mm, 1/60 second, f/11, ISO 100. The image was later converted to infrared black and white. "I believe that black and white can be more interpretive, and more aggressive dodging, burning, and local adjustments can be made before a viewer thinks an image is overworked," Biggs explains. "For me it is all about storytelling, and to do this I like to collect as many adjectives as possible to help illustrate a story. Black-and-white photography is an easier medium for me to illustrate adjectives, and in this case I like to attribute the following words: remote, timeless, regal, hopeful, positive, uplifting, and heroic." You can see more of his work at [www.andybiggs.com](http://www.andybiggs.com).

© Andy Biggs





# WILDLIFE AND NATURE

## TIGER STARE

William Wagnon was at the Sacramento Zoo to photograph some flamingos when he noticed this tiger sitting in the shade. When it heard Wagnon clicking away with his Sony A550 DSLR, the tiger turned toward him and that's when he captured this shot of its intense stare. Wagnon used his A550 with a Sony 18-250mm lens at 200mm, f/4.5, 1/125 second.

WITHOUT A DOUBT, this month's Wildlife and Nature assignment brought out the best in *Shutterbug* readers. There were so many excellent entries, we could've easily picked twice as many favorites and still felt we left some great shots out. In the end, we narrowed it down to 10 wildlife and nature images that truly stood out.

## > WOLVES

Richard Rothstein shot this potent portrait of a pair of wolves in northern Minnesota. He used a Nikon D4 and a Nikkor 600mm f/4G ED VR lens at f/4, 1/1000 second, + 0.33 exposure compensation, and ISO 560.







Focal length: 15mm Exposure: F/8 1/40 sec ISO400 © Ian Plant

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**DAWN BLAST-OFF**  
 "Thousands of wintering snow geese erupt from the ponds at Bosque del Apache National Wildlife Refuge at dawn in a spectacular visual and auditory experience," photographer Timothy Van Minnick says about this photo. The image was shot with a Canon EOS 20D at 28mm, ISO 400, 1/125 second at f/6.3.

© Timothy Van Minnick



**< IN SYNC**  
 "I found these two cranes in a cornfield at the end of winter while cruising the countryside near Shipshewana, Indiana," Lynne Kasey says about this shot. "They were walking away from me and came to a fence. I knew that they were going to have to take flight to get over that barrier, so I aimed where I thought they might be taking flight. Got lucky enough to have been right. They are such beautiful birds." She shot the image with a Canon EOS 7D and a Tamron 150-500mm f/5.0-6.3 lens at 350mm, f/9, 1/320 second, ISO 320.

© Lynne A. Kasey



**GREEN AND GOLDEN BELL FROG**  
 This image of a Green and Golden Bell Frog (*Litoria aurea*) with a human-like expression was captured by Dave Horton using a Canon EOS 6D and an EF 75-300mm lens at 300mm, 1/250 second, f/8, ISO 3200.

© Dave Horton



**YELLOWSTONE DAWN**  
 Rob Santeramo used a Nikon D800 and a Nikkor 24-70mm f/2.8 lens to capture this classic scene in Yellowstone National Park. Settings were 1/160 second, f/20, ISO 800 at 70mm. "This image was produced by the special dawn light that creates magic in Yellowstone Park," Santeramo says.

© Rob Santeramo



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#### ELEPHANT COURTING

Max Lieberman shot this image in the Serengeti, Tanzania, in May 2013. "We came across this old bull elephant with a sprig of flowers sticking out of the side of his mouth," he explains. "The shot was taken as he crossed in front of our vehicle. He then took a drink and sprayed himself, all the while holding the flowers. The guide joked that he was on a date." Lieberman captured the scene with a Nikon D7100 and a Nikkor 70-300mm lens at 300mm, ISO 400, 1/400 second at f/8.



© Douglas Croft

#### MOTION

"This is the last of a coalition of four cheetahs crossing the plain in Kruger National Park," Douglas Croft says. "This one had been distracted and fell behind. Once he realized he'd been left, he raced to catch up. I caught him nicely with a slow shutter pan." Croft shot the image with a Nikon D5000 and a Nikkor 70-200mm lens at ISO 400, f/13, 1/30 second.

© Hal Muhrlein



#### FIVE ZEBRAS

"In Kenya, East Africa, it is not unusual to see two or three zebras standing side by side to help keep the flies from each other's faces," Hal Muhrlein says about this symmetrical image. "This was the only time I saw five helping each other and our guide said he had never seen five together." He used a Nikon D200 and a Nikkor 80-400mm f/4.5-5.6 ED VR lens with a polarizer at a full-frame equivalent of 400mm, f/9, ISO 800, 1/1250 second, with his lens supported by a beanbag.



© Brett Anderson

#### DON'T POKE THE BEAR!

"While walking through the Como Park Zoo & Conservatory, I was informed that they had completely redone the Polar Bear exhibit," Brett Anderson says about the scene for this shot. "The bear sanctuary was impressive, and one of the polar bears was clearly enjoying himself by swimming lazily in slow methodical circles. The other bear in the sanctuary had just woken up from a nap and decided that the swimming bear was having way too much fun and decided to pick a fight." Anderson shot the image with a Canon EOS 60D using a 50mm lens at f/2.8, 1/800 second, and ISO 200.

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**DEADLINE FOR SUBMISSION:** August 1, 2015. Images will appear in our November 2015 issue.

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**DEADLINE:** September 1, 2015 **PUBLICATION DATE:** December 2015

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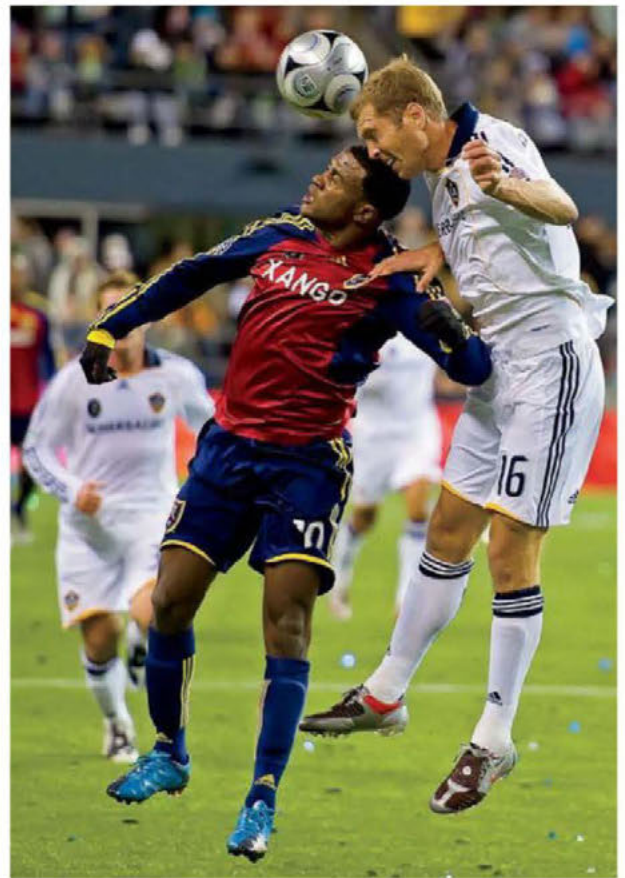


# SPORTS AND ACTION

Shooting sports and action can really put your gear and your timing to the test. But there's more to a great action shot than simply capturing the moment and making sure it's in focus. For this assignment, we want to see sports and action images that have great composition, effective use of backgrounds and scenery, and powerful human emotion. (And, of course, it wouldn't hurt that the image is in focus, or out of focus, where appropriate.) ■

#### HEAD-TO-HEAD BATTLE

I shot this photo at the MLS Cup in Seattle, Washington, in 2009. These players from Real Salt Lake and the LA Galaxy were battling the whole match and I thought this image captured the occasional brute physicality of "the beautiful game." I used a Nikon D3S and a Nikkor 70-200mm f/2.8 VR II lens at 200mm, f/2.8, 1/2000 second, ISO 4000.



© Dan Havlik

A man with a beard, wearing a plaid shirt, is working in a darkroom. He is leaning over a table, handling photographic prints. The room is dimly lit with red light, and various darkroom equipment like a enlarger and a clock are visible in the background.

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# SLURPEE WAVE

PHOTOGRAPHER ANSWERS WEATHER CHALLENGE, CAPTURES VIRAL IMAGE OF FROZEN SURF

By Barry Tanenbaum

**THE TEMPERATURE WAS 19 DEGREES** on a late February morning last winter on the beach at Nantucket, Massachusetts. About 300 yards out the ocean was icing up, and the waves rolling in had the consistency of freshly mixed concrete. Checking things out was pro photographer Jonathan Nimerfroh.

“For a photographer, if there’s crazy weather, that’s the best time to be out,” he explains. “We’d had record cold temperatures for a week. The harbor was frozen solid; that happens all the time, but never the ocean.” He says the “perfect, dreamy slush waves” were the most bizarre thing he’d ever seen, and he began taking eyewitness pictures.

With the wind howling at 50 miles an hour, Nimerfroh would shoot for five minutes, return to his idling truck to warm

up, then go back to the beach for more photos. “I did that maybe three or four times,” he notes.

When a friend posted one of his photos to her Instagram page, the photo and his story went viral as what came to be known as the “Slurpee Wave” was picked up by local and national TV, *The New York Times*, social media, and several magazines. Nimerfroh reports that his Instagram followers went from 1,500 to 14,000 in five days.

We’re not surprised. When you take a photo of something that the old-timers among Nantucket surfers, fisherman, and harbor men said they’d never seen before, you’ve got a photo everyone wants to see. ■

*Jonathan Nimerfroh’s website, [www.jdnphotography.com](http://www.jdnphotography.com), features a variety of his surfing and lifestyle images. His Instagram photos are at Instagram @jdnphotography.*

**Tech Talk:** Jonathan Nimerfroh took the Slurpee Wave photo with a Canon EOS 5D Mark III and an EF 28-300mm f/3.5-5.6L IS USM lens. Settings were 1/4000 second, f/5.6, ISO 200, aperture priority, and Evaluative metering.

© Jonathan Nimerfroh



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▲ Lechwe, a species of antelope, in the Okavango Delta in Botswana. It looks like it was lit by flash, but that's because of the low angle of the morning sun and the reflection off the water.

Photos © Blaine Harrington

# NO LIMITS

## DON'T SETTLE FOR THE ORDINARY IN YOUR PHOTOGRAPHY

By Blaine Harrington

AS A PROFESSIONAL TRAVEL PHOTOGRAPHER, I can't be limited by what a location is known for. And if you're aiming for photos beyond the ordinary, neither can you.

Let's play word association for a moment. If I say "Paris," you're likely to think of the Eiffel Tower or the Champs-Élysées. London? Big Ben, the Beefeaters, perhaps the Tower of London itself. And while those landmarks are undeniable subjects, they are only part of the story we want our photos to tell.

Early last year I started planning a month-long trip to Botswana and South Africa, part of which would be spent leading a photo safari. From the start I knew that my photography would include much more than wildlife. It's my business, and my pleasure, to explore and experience beyond the obvious subjects suggested by a location. As a practical matter, I have to photograph much more of what a destination offers and deserves; as a personal matter, it's often what's best about my job.

My 11-day Botswana safari would be 100 percent centered on wildlife, but my

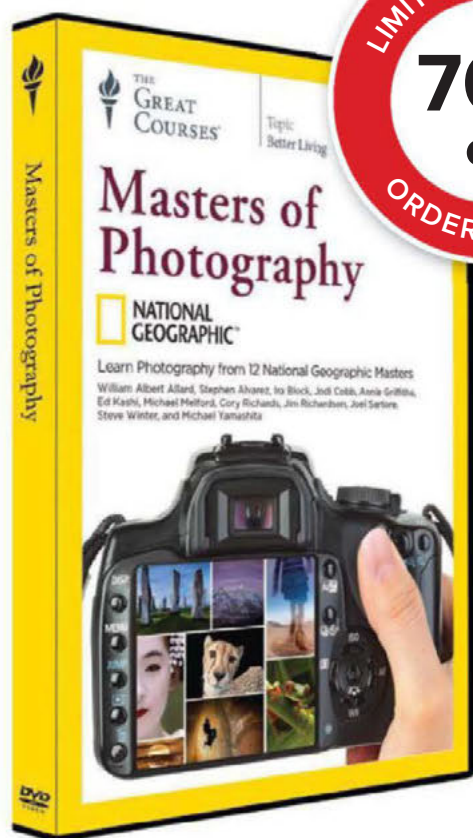
plan called for spending at least as much time in South Africa. I'd been there in 2008, and it was time for me to catch up with this vital and vibrant country and to take pictures that would showcase its energy and enterprise.

I chose Johannesburg, Pretoria, and Cape Town as the locations I needed to explore. Johannesburg is practically the

> I took this in the Maboneng Precinct of Johannesburg. Maboneng means "place of light," and this is the kind of picture you dream of getting: a single image of beauty and energy that sums up the feeling of a hip, urban area. I've always been able to get pictures like this because I always have a feeling of curiosity and wonderment. I'm really happy doing this job, and people often sense that and respond.







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commercial capital of sub-Saharan Africa; Pretoria is a notable tourist attraction with museums, gardens, and a zoo that's considered one of the 10 best in the world; and Cape Town is a beautiful city that's on many lists of the world's great destinations.

I set a goal of photographing both the traditional and the modern. I did my

research homework and knew pretty much what to expect, but because I'm always hoping for surprising pictures, I'd allotted time also for the unexpected and the serendipitous.

The trip went well, and I came home with about 14,000 images. The ones you see here are from an early edit, but I think they're good examples of what results

I made this photo of part of a group of thousands of lesser flamingos from the Rovos Rail train that was taking me from Pretoria to Cape Town. They alert the passengers that the flamingos are coming up, and the train slows, but I still needed 1/4000 second, hand-holding my 200-400mm lens.



The Bo-Kaap quarter of Cape Town is known for its brightly painted houses. I'd shot first from across the street with a wide-angle lens, but the image showed cars on the street. When I switched to my 16mm fisheye I got the color, shape, and impact I wanted, with no distractions.



The LED-illuminated Nelson Mandela Bridge connects two areas of Johannesburg. This shot was on my list of photos to get, and I spent about an hour out there because weekend traffic was so light I had to wait for approaching headlights. I like the nice vertical wide-angle look I got with my 14-24mm zoom at 17mm.





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Photo courtesy of Lopshire Photography



Crates of freshly picked grapes in a vineyard near Stellenbosch, east of Cape Town, in an image that benefits from my 16mm fisheye's view. South African wine dates back to 1659, and today South Africa is the world's ninth largest producer of wine.



< The 100-meter bungee jump at Orlando Towers, a decommissioned coal-fired power station in Johannesburg. I'd photographed the station in 2008, and between my visits they'd turned it into a recreational adventure center. It was a nice surprise. I got to take a lot of pictures, and I jumped too!

(TOP RIGHT) I did a lot of documenting of great food on this trip. This was an easy shot because of the open shade of the outdoor dining area at the sushi bar in the Nobu restaurant in Cape Town. I could have used a flash to show more of his face, but I wanted the picture to be about the food and his presentation of it.



when you have the goal of looking beyond the obvious to capture the spirit and energy of a place.

I'm always confident that I can get exciting, colorful pictures of whatever I find along the way on my travels. Perhaps one of the most important reasons for that confidence is the fact that I've never gotten into the habit of shooting only what I know best, or find easiest, or expect to see. ■

*A selection of Blaine Harrington's images can be viewed at his website, [www.blaineharrington.com](http://www.blaineharrington.com).*

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Kerrick James using his Outlander, 50L

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< A tiny airport in David City, Nebraska, was the raw material for this image. Layne Kennedy used the ScratchCam app for texture, then added birds from an app called Distressed FX. "One of the things I quickly learned about iPhone photography," he says, "is that often I'd be using more than one app for a photo."



"At the Stone Arch Bridge in downtown Minneapolis I saw this colorful little scene and thought, That's kinda cool. I took a grab shot, then did a treatment with the Pixlr-omatic app."

# A DIFFERENT PERSPECTIVE

PROFESSIONAL PHOTOGRAPHER LAYNE KENNEDY EXPLORES NEW ANGLES WITH HIS IPHONE IMAGERY

By Barry Tanenbaum

*(Editor's Note: Going Mobile is a new Shutterbug column that looks at the art of mobile photography.)*

LAYNE KENNEDY wasn't a hard sell. Even though his first smartphone camera wasn't very good by his standards—he is a professional photographer, after all—he liked being able to take quick, casual, spur-of-the-moment pictures when his DSLR wasn't at hand, or when he didn't feel like hauling it out.

Soon, though, smartphone cameras got better and a flood of appealing apps appeared, and Kennedy realized he could imagine and create quality photographs that were very different from the razor-sharp realism of his professional work.

Different was good, as another side of his photographic personality, a side that had always been there, emerged. "I came up in photography learning about all the old processes and styles," he says. "Platinum and palladium printing, gum

bichromate, Cibachrome. I'd have loved to do palladium prints, especially of some of my black-and-white landscapes, but as a young photographer I didn't have the time. I had to make a living." Now, thanks to his iPhone and a few apps, all of those looks and effects, and a whole lot more, were possible. "The visual language had changed," he says.

## MAKING THE JUMP

Using that language has been liberating. "For an editorial guy like me," Kennedy says, "being able to jump over the fence means I can create images I couldn't do before."

Sometimes he'll even create those images from photographs that begin as DSLR pictures. "I'll take a shot with my DSLR that just cries out for an effect, especially a nostalgic look. I'll e-mail that photo to myself, download it on my iPhone, and then bring it into one or more apps." Though none of the photos shown here



An open field, a single tree, and a classic John Deere tractor made this scene in Grand Marais, Minnesota, irresistible. Kennedy used his Hipstamatic app to convert it to black and white, then let some of the color bleed through. "I can have a feeling of nostalgia, and then the iPhone allows me to bring it home."



A photo from the Grand Portage National Monument in Minnesota. Kennedy's photo career features longtime use of a Hasselblad, but these days his square format images come from Hipstamatic, which also creates old-time borders. "I loved metal surfaces in those days and how film's silver halide crystals would make metal gleam. Now I have a chance to try that look with the iPhone."

Photos © Layne Kennedy



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### Aspen Photo Art by Larry Bennett

Clear Lake Colorado sets above timberline, about 13,000 ft. close to the old mining town of Silverton. This image is a 7 exposure HDR, shot early morning, in the Summer of 2012, with 24-70mm zoom on a Canon 7D.

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No apps were used for this color photo of a rather monochromatic scene in northeast Minnesota. "I saw the pattern in the intersection, got out of the car and shot it," Kennedy says of an image that's an example of the spontaneous grab shots his iPhone first inspired him to make.



Kennedy took this photo on the Greek island of Rhodes, treated it with ScratchCam, then added the big sun from the app Alien Sky. "I carry the 5x7 frame in my camera bag and for fun use it to indicate the part of a scene I especially like. I show this photo, and others like it, in my iPhone class at the Minneapolis Photo Center. The idea is, imagine it, then make it happen."



"Somewhere in central Wisconsin" is as close as Kennedy can get to the location of this image. "I was driving back to Minneapolis from an assignment for the Nature Conservancy, and this place was absolutely stop-the-car worthy." He used the Pixlr-omatic app for the cool blue tone and vintage look, then took the image into his BlurFX app to create some blurred areas.



Kennedy made this image at the Grand Portage National Monument and gave nostalgia a bit of a boost using ScratchCam.

were created that way, he has had success marketing some crossover images for editorial illustration.

He makes no apologies for the use of apps to create smartphone images he's sold, exhibited, and shared on his website and through social media. In fact, he celebrates his means and methods. "Of course it's real photography," he says. "It's just a different way of expressing myself. It allows me to use my imagination, and to discover a lot of possibilities."

For Kennedy, his iPhone photography (he's shot with the 3, 4, 5, and now the 6 Plus) often provides the ease and freedom to let a photo suggest its own mood and tone, its own time and place. It may be expressive, interpretive, fanciful, or realistic. "Whatever I'm feeling, I have in the apps the tools to make that feeling real."

Sometimes the process is quick—he'll take a couple of shots and on the bus or in the taxi to the next gig he'll create an image

from a feeling he has for the picture or a memory it calls up. Or he'll experiment to let apps lead him to images that resonate. "I can go into the past, or create scenes that never were, scenes I just imagine."

Everywhere he looks he finds smartphone photography becoming a creative art, and to a greater extent than anyone ever thought would happen. "Look at Facebook," he says. "They did studies to find out how much time people spent looking at posts that didn't have photos. They found that very few people stick around for more than two sentences before moving on. When the Facebook people learned that, they decided to buy Instagram."

## AND SHARE ALIKE

An important part of the creative fun is the ability to quickly share what he's seen or dreamed up. "For any photographer, any artist, sharing the work and getting feedback is probably one of the best

sources of motivation," he maintains. "It encourages us to do what we do. It's not that we're trying to sell it or gain approval—we just like the results and want to share what we saw and what we did."

Kennedy posts often to Instagram and Facebook. "When I travel, I'm willing to bet that the single greatest method of staying in touch with family and friends via social media is the posting of pictures I've taken with the iPhone."

There is also a professional aspect to his phone photography. "A lot of times an iPhone photo will just capture a client's imagination in a way a DSLR photo won't. My iPhone images show that there's another side to me and to my photography." ■

*You can view Layne Kennedy's editorial photos and find out about his photo tours, workshops, and books at his website, [www.laynekenedy.com](http://www.laynekenedy.com).*



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### EYE IN THE SKY

Want to shoot striking aerial photos but can't afford a helicopter? DJI's Phantom 3 remote-controlled quadcopter shoots 12MP still images in Adobe's DNG Raw format along with 4K video, so you'll capture amazing amounts of detail in your bird's eye photos and movies. Powerful copter motors and improved stabilization let this drone fly faster and steadier while giving the on-the-ground pilot more control. Three built-in sensors in the Phantom 3 monitor the ground to help prevent crashes, while improved battery life keeps it aloft for up to 23 minutes. Want instant aerial fame? You can now live stream your video from the drone directly to YouTube.



**DJI Phantom 3**  
\$1,259 (professional model that shoots 4K)  
dji.com

### CINEMA STAR

Photographers who want to make the leap to shooting pro-quality movies can turn to a familiar name. The Canon EOS C300 Mark II may have some similarities to the company's DSLRs—including an EF lens mount so you can attach Canon's photo lenses—but under the hood this cinema camera is a vastly different beast. The C300 Mark II is powered by a new 8.85-megapixel Super 35mm Cinema CMOS Sensor, new dual DIGIC DV5 processors, and features a new Canon XF-AVC Codec that allows 10-bit 4:2:2 4K image data to be recorded internally, and an expanded dynamic range of up to 15 stops. The camera has been redesigned from the previous model to make it more comfortable and easier to use, and there's now a built-in microphone for scratch audio as well as dual CFast 2.0 card slots for MXF recording and an SD card slot for 8-bit 4:2:0 Full HD proxy recordings.



**Canon EOS C300 Mark II**  
\$20,000 (in EF or PL lens mounts)  
usa.canon.com

*(Editor's Note: The Goods is a new feature in Shutterbug that spotlights the hottest premium photo gear out there. If you have a product you'd like considered for The Goods, e-mail images and info to [editorial@shutterbug.com](mailto:editorial@shutterbug.com).)*



## LIGHT OF YOUR LIFE

Even if you have a vast collection of Raw image files and like to tweak them to your heart's content, the latest version of Adobe's Lightroom has the power to handle them. Known as Lightroom CC in Adobe's subscription-based Creative Cloud Photography plan with mobile features; or Lightroom 6, as a stand-alone desktop app, this revamped image organizer/editor received a GPU boost that Adobe claims makes it "10 times faster than ever." New features include an HDR Merge tool that combines shots with different exposure settings into one Raw high dynamic range image; Panorama Merge, which stitches together images into a Raw panoramic photo; Facial Recognition for quickly searching and sorting images of friends and family; and Video Slideshows, which combine still images, videos, and music with pro effects such as pan and zoom.

**Adobe Lightroom CC/Lightroom 6**  
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## PRINT KING

Turn your images into gallery-worthy photo prints with the Epson SureColor P800. This 17-inch-wide professional photo printer uses a new UltraChrome HD eight-color pigment ink set and revamped Epson MicroPiezo AMC printhead technology for eye-catching but natural-looking color and crisp detail. Other new features include a sheet feeder for photo or matte media, and a front-in and front-out paper path designed to make it easier to print on thicker fine art papers and poster board. There's also an optional roll paper adapter for printing on canvas and on longer print lengths of up to 10 feet to help produce ultra-wide panoramic photo prints. Monochrome fans will love the Advanced Black-and-White print mode for pro-level neutral or toned black-and-white prints.

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# GOING LONG

WHEN YOU WANT TO GET CLOSE-UPS OF WILDLIFE AND NATURE, TRY THESE GREAT TELEPHOTO AND ZOOM LENSES

By Joe Farace

IF THERE'S A MORE challenging photographic discipline than wildlife photography, I don't know what it is. It requires heavy and expensive long focal length lenses, a sturdy tripod, and the physical prowess to schlep all this gear through physically demanding environments. If you're thinking "that's not you, Joe," you are *correctamundo* so I asked a few friends for advice on telephoto lenses and this is what they told me.

## WHAT TO CONSIDER

Based on the traditional 24x36mm film format, a 50mm lens has an angle of view of about 45 degrees and is considered "normal"; lenses with an angle of view narrower than 40 degrees can be considered "telephoto." Long focal length lenses produce a magnified image along with compressed perspective; as the distance to the subject increases, the vanishing point moves back and the subject appears to be the same size as surrounding objects.

But it takes more than just a long focal length lens to make great wildlife images. Long focal length lenses usually require a tripod—sometimes two. Depending on the lens's size and focal length you may need a tripod for the camera body and another for the lens. Lenses with rotating tripod collars make it easy to change from horizontal to vertical shots. For shooting wildlife, some lenses let you set a detent at a predetermined area, so you can focus anywhere and then quickly return to the detent.

If you don't like schlepping a tripod, choosing an image-stabilized lens may be a better option. Image Stabilized, Vibration Reduction, Optical Image Stabilization, or Vibration Compensation (whatever

your favorite manufacturer chooses to call it) can be a big help in overcoming the old rule that shutter speed should be set as the reciprocal of the focal length. For example, when using a Canon EF 400mm f/5.6L USM lens (\$1,249) you should use a minimum shutter speed at 1/400 second or 1/500 second to get sharp images. Shooting at dusk and dawn may require faster apertures and slower shutter speeds. If you can afford it, Canon's EF 400mm f/2.8L IS II USM (\$9,999) with image stabilization offers a four-stop advantage. Sure, it's the cost of a 2012 Toyota Corolla but when playing with long lenses, you need to bring your checkbook.

## ZOOM LENSES

I'm not going to beat up that old "zoom vs. prime" controversy. By now, you've already made up your mind about it, so I've tried to present both options when I could. Nikon's AF-S Nikkor 200-400mm f/4G ED VR II lens weighs 7.4 lbs and measures 14.4 inches and uses drop-in 52mm filters in a slot behind the lens collar. The lens has four Extra-low Dispersion (ED) glass elements for sharpness, contrast, and color correction. Silent Wave Motor (SWM) enables quiet AF for those situations when

a stealthy approach is called for and there's also a manual focus override. For handheld shooting, built-in Vibration Reduction (VR) provides three additional stops. All this goodness is not cheap (\$6,999) but it's a fixed aperture lens designed for full-frame cameras.



Sometimes you need just a little more reach. Nikon's AF-S Teleconverter TC-14E III (\$499) effectively multiplies the focal length of (many) Nikkor lenses by 1.4x, while only losing one stop of exposure. Fluorine coatings protect the front and rear surfaces from dirt and water and a water-drop-resistant lens barrel can handle the elements. The TC-14E III only weighs 6.7 ounces and measures 2.5x0.9 inches so you can keep it in your pocket ready to use.



© Joe Farace



Tamron's SP 150-600mm f/5-6.3 Di VC USD (\$1,069) is available for Canon, Nikon, and Sony full-frame and APS-C (233-930mm angle of view) cameras. Three Low Dispersion elements correct chromatic aberrations and Tamron's eBAND and BBAR (Broad-Band Anti-Reflection) coatings suppress flare and ghosting. The lens has built-in Vibration Compensation (VC) and an Ultrasonic Silent Drive (USD) autofocus motor that focuses as close as 106.3 inches. The lens has a moisture-resistant construction, weighs 68.8 ounces, including detachable tripod mount, and measures 10.1x4.16 inches using a hefty 95mm front-mounted filter.



Tokina's AT-X 70-200mm f/4 PRO FX VCM-S lens (\$899) is designed for digital cameras with full-sized or APS-C sensors and has a Vibration Correction module that

allows up to three stops. It has a ring-shaped ultrasonic-style autofocus motor for fast, quiet autofocus and lets you switch between AF and manual focus modes. A tripod collar is optional (\$229) but a lens hood is included. The optical design uses Super-low Dispersion glass elements to correct for chromatic aberration throughout the zoom range. The lens measures 3.23x6.59 inches, weighs 2.16 pounds, and uses 67mm filters.

Sigma offers two 150-600mm f/5-6.3 DG OS HSM hyper-telephoto zoom lenses that vary in design and purpose. The 150-600mm f/5-6.3 DG OS HSM Sports (\$1,999) is designed for high-action situations while the 150-600mm f/5-6.3 DG OS HSM Contemporary (\$1,089) offers similar performance in a more compact and portable design. Both versions are dust- and splash-proof and use water- and oil-repellent coatings on front and rear elements. The "twins" have an updated Optical Stabilizer (OS) that features an accelerometer for improved vertical and horizontal panning that's important for bird and wildlife photography. There are zoom lock and manual override switches for improved focus control. The lenses are available in Canon, Nikon, and Sigma mounts and are compatible with Sigma's Global Vision teleconverters, which are effective up to f/8.










The 150-600mm f/5-6.3 DG OS HSM Sports measures 11.4x4.8 inches and weighs 6.3 pounds. It contains 24 lens elements in 16 groups—with two FLD and three SLD glass elements; it has a



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## TOOLS / GEARED UP

minimum aperture of f/22 and a minimum focusing distance of 8.5 feet. Its maximum magnification ratio is 1:5. The Sports lens included a lens hood and rotating tripod collar.

The weight of the 150-600mm f/5-6.3 DG OS HSM Contemporary was not finalized (at deadline) but its dimensions are 10.2x4.1 inches with a 95mm front filter. The lens has 20 elements in 14 groups—including one FLD and three SLD glass elements—with a minimum aperture and a minimum focusing distance identical to the Sports version. Its maximum magnification ratio is 1:5.



The design of Sony's FE 70-200mm f/4 G OSS full-frame E-mount zoom lens (\$1,498) includes ED and aspherical elements along with a Nano Anti-Reflective (AR) coating. It has dual linear motor AF with SteadyShot Optical Image Stabilization. The lens has dust- and moisture-resistant construction, offers focus hold and range limiter controls along with a removable tripod collar and lens hood. It measures 3.25x7 inches, weighs 29.7 ounces, has a 72mm filter size, and a minimum focus distance of 39.3 inches.



Sony's 70-300mm f/4.5-5.6 G SSM II zoom lens (\$1,148) is a full-frame A-mount lens with a 105-450mm equivalent with APS-C cameras. It uses two Extra-low Dispersion (ED) glass elements and has a Nano AR Coating. The lens measures 3.25x5.37 inches, weighs 26.5 ounces, and has a 62mm filter size. Sony includes a lens hood and a carrying case.





Canon's EF 100-400mm f/4.5-5.6L IS II USM lens (\$2,199) has dust and water sealing features and uses one fluorite and one Super UD element to help contrast and resolution with reduced chromatic aberrations. Air Sphere Coating (ASC) reduces backlit flaring and ghosting, while fluorine coatings on the front and rear lens surfaces minimize smears and fingerprints. A nine-blade circular aperture renders attractive bokeh while a three-mode (standard, panning, and exposure only) Optical Image Stabilizer provides up to four stops of correction. The inner focusing AF system focuses to 3.2 feet at a 0.31x maximum magnification. It measures 3.7x7.6 inches and weighs 3.5 pounds. The lens hood has a window that lets you adjust (77mm) filters, such as a polarizer, without removing the hood.



In addition to the HD coating, the HD Pentax-D FA 70-200mm f/2.8ED DC AW lens (\$2,299) features Aero Bright Coating II for low reflectance. In addition to four super-low dispersion and two ED elements, lens design uses a pair of Super ED glass elements to compensate for chromatic aberration over the entire zoom range for edge-to-edge sharpness. The lens has fast, quiet internal focusing and an AF limiter switch to improve response time along with a dustproof, weather-resistant construction, making it useful for nature photography.



The HD Pentax-D FA 150-450mm f/4.5-5.6ED DC AW lens (\$2,499) incorporates three ED glass elements and a super-low dispersion glass element to compensate for chromatic aberration. The weather-resistant body protects the interior from dust and moisture in challenging outdoor weather. Both HD Pentax-D FA lenses feature a high-grade HD coating for sharp, high-contrast images, while minimizing flare and ghosting, even under backlighting.



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### TELEPHOTO ZOOMS FOR MIRRORLESS CAMERAS

The mirrorless world would not seem to be a hotbed of wildlife photography but judging by what I'm seeing on social media photographers are doing just that. The Olympus M.Zuiko ED 40-150mm f/2.8 PRO (\$1,499) produces an 80-300mm equivalent field of view. The AF system separates the focusing mechanism into two lens groups controlled by individual linear drive motors, increasing performance with no gears involved. It's quiet and nearly friction-free. Lens design incorporates 16 lens elements in 10 groups, including coated HD, ED, EDA, and Super EDA glass for reduced chromatic aberration, ghosting, and flares. To keep out moisture and dust, the lens has 11 separate seals. It measures 3.13x6.30 inches, weighs 1.94 pounds, and has a 72mm filter size. Using the Olympus MC-14 1.4x Teleconverter (\$349) extends its maximum focal length to 210mm (420mm equivalent).

Panasonic's Lumix G Vario 100-300mm f/4-5.6/Mega O.I.S. lens (\$597) has an image-stabilized focal length equivalent of 200-600mm, making it a natural for wildlife photography. It measures 2.89x4.96 inches, weighs 1.14 pounds, and has a 67mm filter size. One setup popular for mirrorless photographers is using their cameras with Swarovski's spotting scopes. (See "The Digiscoping Concept" sidebar story.) One approach uses the Lumix G 20mm f/1.7 II ASPH lens (\$427) with the Digidapter Digiscoping adapter ([www.digiscopadapter.com](http://www.digiscopadapter.com)) that attaches to the scope using the same collar as Swarovski's adapter. According to Atlanta photographer Rob Knight ([www.robknightphotography.com](http://www.robknightphotography.com)), the Digidapter and 20mm lens produce two stops of light with an effective focal length between 1000-2000mm.



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### MICHAEL SEMAAN ON SCHNEIDER B+W FILTERS

*"Atop a rock outcropping with my tripod dangling off the edge, I felt the spray of the waves as I calculated the exposure in my head. I knew I wanted a deep depth of field, and to slow the action for a pillowy, cotton candy, cascade effect. I always carry a 3, 6 & 10-stop B+W ND. Between those values I can get the exposure I want. I added on the B+W Circular Polarizer, for a shot like this it makes the colors pop, and cuts through the waters surface glare."*

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You don't often think of Fuji's mirrorless cameras for wildlife photography but their XF 50-140mm f/2.8 R LM OIS WR lens (\$1,599) produces an angle of view equivalent to 76-213mm that when combined with a weather- and dust-resistant construction should find a home with nature photographers. Construction includes 23 glass elements in 16 groups, including five ED elements and one Super ED element. At 3.3x6.9 inches the lens is relatively compact—it uses 72mm filters—and weighs 2.2 pounds.



#### TELEPHOTO PRIME LENSES

Nikon's AF-S Nikkor 300mm f/4E PF ED VR, which at 26.6 ounces, claims to be the world's lightest 300mm full-frame—it works with DX cameras, too—fixed focal length AF lens. It only uses a 77mm filter and with a \$1,999 price tag, you won't have

to mortgage the house to pay for it. The PF stands for the use of Phase Fresnel (PF) lens elements, which brings sharpness with virtually no chromatic aberration or ghosting as well as reducing lens size and weight. Nikon's VR stabilization system allows an extra 4.5 stops and an overall length of 5.8 inches makes hand-holding possible, even for the squeamish like me.



The 180mm macro lens is becoming something of a favorite for nature photographers, especially when making pictures of skittish subjects like butterflies or hummingbirds. Sigma's APO Macro 180mm f/2.8 EX DG OS HSM (\$1,699) produces a magnification ratio of 1:1 at a large maximum aperture. It uses the company's optical stabilization system, which allows an extra four stops more than otherwise possible. Three FLD ("F" Low Dispersion) glass elements with performance equal to fluorite glass are included to correct color aberrations and an internal

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## TOOLS / GEARED UP

focusing system minimizes aberrations that occur when changing shooting distance. Super Multi-Layer Coating reduces flare and ghosting and delivers sharp images, even at maximum aperture. The lens has a rounded nine-blade diaphragm producing attractive bokeh. The lens has a close-focusing distance of 18.5 inches and is available in Canon, Nikon, Sony, and Sigma mounts.



Tamron's SP 180mm f/3.5 Di 1:1 Macro (\$739) is available for Canon, Nikon, and Sony full-frame and APS-C cameras. A focal length of 180mm, 1:1 reproduction, a fast, constant maximum aperture, and an optical design featuring two LD glass elements produce a sharp lens with a close-focusing distance to 18.5 inches. A FEC (Filter Effect Control) function lets you rotate the filter to the desired position with the lens hood attached. Canon and Nikon mount versions have a focusing ring with quick switching

between auto and manual focus for fine adjustment. It weighs 32.5 ounces, including detachable tripod mount, and measures a compact 3.3x6.5 inches and uses a 72mm front-mounted filter. Tamron includes a lens hood and a nice case.



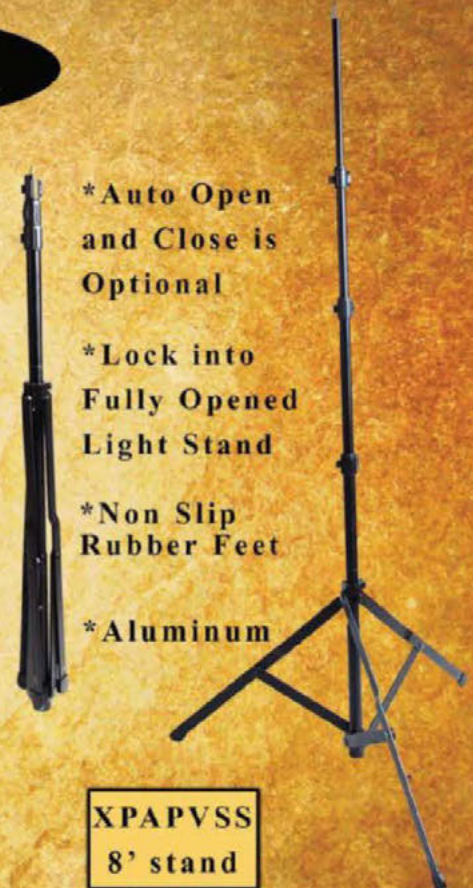
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Canon's EF 400mm f/4 DO IS II USM lens costs \$6,899 or about the cost of a 2002 Nissan Maxima. It features gapless dual-layer diffractive optical elements for reduced flare. Other coatings reduce ghosting, ensure proper color balance, and reduce fingerprints on the front and rear of the lens. It has a three-mode Image Stabilization system offering up to four stops and can prevent errors when the camera is tripod mounted. AF stop buttons on the front of the lens can automatically stop focusing at any time and a Power Focus (PF) mode makes smooth transitions when shooting video. The lens focuses to 10.8 feet, has a nine-blade aperture for pleasing bokeh, and is constructed with lead-free glass. It measures 5.04x9.16 inches, weighs 4.63 pounds, and uses 52mm drop-in filters. ■



#### THE DIGISCOPING CONCEPT

The idea behind Digiscoping has been attributed to Laurence Poh, a birdwatcher from the Malaysian Nature Society, who in 1999 discovered that point-and-shoot digital cameras could be held up to the eyepiece of a spotting scope and produce surprisingly good results. Fast forward to today. A popular setup for nature photographers is to use Swarovski Optik ATX/STX Spotting Scopes with their digital cameras. ATX/STX Scopes (\$3,775 and up) are available with 65mm, 85mm, and 95mm objectives, which translates into the equivalent of a 1250-3000mm lens. You'll need an adapter such as Swarovski's TLS APO Digiscoping Adapter for ATX/STX Scopes (\$549) and that still requires a T2 lens adapter.



Joe Farace invites readers to visit his blogs, including *Saving the World*, *One Pixel at a Time* ([www.joefaraceblogs.com](http://www.joefaraceblogs.com)) and *Mirrorless Photo Tips* ([www.mirrorlessphototips.com](http://www.mirrorlessphototips.com)), to read new how-to posts Monday through Friday.

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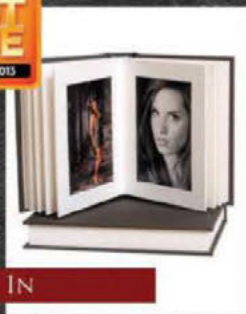
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# NIKON D7200

Image Tech lab tests and comments supplied by BetterNet, Shutterbug's TIPA-affiliated testing lab. Shutterbug is the sole US representative within TIPA, a worldwide association of photo and imaging magazines.

*Edited by George Schaub*



< The Nikon D7200 is the new flagship of Nikon's DX camera line (APS-C-sized sensor). The camera offers 24MP resolution, has a very fast and reliable AF system, and showed an excellent overall performance in our tests.



The arrangement of the main functional elements of the D7200 will be very familiar to Nikon users. The camera has a large mode dial on the left-hand side and a status LCD on the right-hand side.

**THE NIKON D7200 WILL SEEM** quite familiar to those who have worked with the forerunner D7100: indeed, the image sensor of the new D7200 is basically the same. It offers 24MP resolution, but now has a higher “standard” ISO range up to ISO 25,600 (which was the High or “push” mode” offered by the D7100) that can now be expanded to an ISO 102,400 equivalent, albeit in monochrome mode only. These higher speed settings are possible because the D7200 uses a new image processor dubbed “Expeed 4.”

## CAMERA BUILD & LAYOUT

The new camera is an SLR system with an optical viewfinder that offers 100 percent field of view. It has a large body (the same size as the D7100) yet it is a bit lighter due to it having a magnesium alloy chassis. The large grip on the right-hand side offers stable handling, which we found quite comfortable.

The camera has numerous function buttons and setup dials to change image parameters very easily and intuitively. The eight-way control field on the back allows for fast menu navigation and the five function buttons left of the LCD screen give direct access to ISO speed, white balance, and image quality settings. But these buttons also preclude the use of a swivel joint for the LCD. The 3.2-inch LCD screen is fixed, which is a little less convenient for still photographers and even less so for videographers.

## PERFORMANCE

The camera uses the same AF module as the Nikon D4 (“Advanced Multi-CAM 3500 II”), which we found to be very fast.

The D7200 had no problems in keeping moving objects in focus even while taking photos in continuous shooting mode that can go as fast as six frames per second.

When using the optional smaller sensor area of 18x12mm (a crop factor of 1.3x) the camera can take up to seven images per second. The central AF sensors are very light sensitive and allow the user to focus at f/8, an aid when using tele lenses with converters, which can reduce the aperture to f/8.

## COMMENTS ON IMAGE QUALITY

**Color:** The reproduction of the color test chart shows a very good performance of the white balance system. The gray pattern in our result chart is located in the center of the graph, with only the brightest gray shifted into the yellow area. This effect is also noticeable in the portrait shot. The color error level is low, but the D7200 shows an error that is typical for Nikon cameras: darker blue nuances are boosted with extreme saturation. This effect is visible in our test box shot (blue spool). It should be noted that the blue



The new Nikon has a very large LCD screen (3.2 inches) with high resolution (1.3 million RGB dots) and offers 100 percent field of view. It is built into the body and can't be rotated up-/downward or to the side.

colors are statistical blips which lift the mean image saturation to 108.9 percent, while the other colors show only minor discrepancies from their given values. Skin tones are reproduced very naturally. The very bright skin tone of our model shows a very slight shift into the more yellowish direction, as also seen in the bright gray pattern in the test chart.

**Sharpness:** The sharpness results were excellent. The camera created crisp and clear reproductions of the test box, the portrait shot, and the ISO 12.233 test chart. (Note: For all test images we used the AF-S Micro-Nikkor 60mm f/2.8G ED, not the Nikon proposed kit lens.) The test chart was reproduced with 3,941 lines per picture height, which is nearly the nominal

sensor resolution (4,000 lines per picture height). Even though the resolution results are very high, the sharpness doesn't look artificial or exaggerated. Fine details like the structure of the metal sieve or the thread spool in our test box shot are clearly differentiated and crisp.

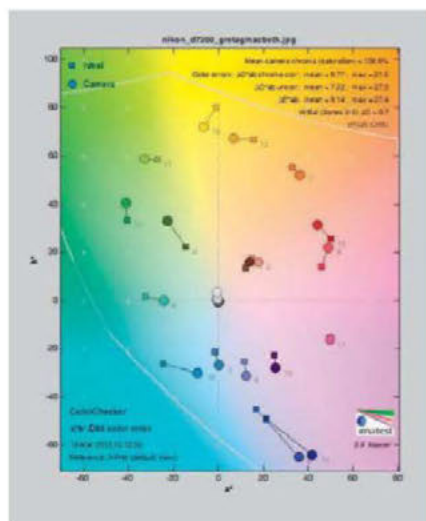
**Noise:** The Nikon D7200 showed a very good performance in our noise tests when standard ISO speed settings were used. The camera keeps a level of about 0.6-0.7 percent between ISO 100 and ISO 800, then it rises slightly but still stays below 1.0 up to ISO 6400 mode. The highest ISO speed settings show minor color noise artifacts, but are still fully acceptable. Only when shooting in boosted modes up to ISO 102,400 do noise artifacts get annoying.

#### COMMENTS ON VIDEO FUNCTIONS

The D7200 offers Full HD recording with 1920x1080 pixels and a maximum of 30 frames per second in progressive image mode. It allows users to shoot at higher frame rate modes up to 60 frames per second, but only if the smaller sensor area of 18x12mm is used or if the resolution is reduced to 1280x720 pixels.

The video clips are saved as MOV files with H.264 compression and are available in two quality settings ("normal" and "high"), which differ in their average data rate. The highest mode records with 22.8 Mbit/s and was used for all our test videos.

Recording videos requires the user to switch from photo to video mode using the small switch at the "LV" button. The LV button starts the live preview on the LCD screen and is also necessary for recording videos.



The reproduction of the color test chart shows a very good performance of the white balance system. The gray pattern in our result chart is located in the center of the graph, with only the brightest gray shifted into the yellow area.

The camera allows the user to record videos in all exposure modes. ISO speed can also be adjusted by the photographer, but is only available in M mode, while the camera switches back to AUTO ISO when recording videos in P, S, and A modes.

The Nikon D7200 offers sound level control and can use an external microphone for better sound quality. In addition, it has an earphone jack for direct control of sound quality and sound level when recording videos, with sound level graphs shown on the LCD.

#### COMMENTS ON VIDEO QUALITY

The Nikon D7200 showed a very good performance in our video tests. The Full HD resolution was reproduced with 796 lines per picture height, which is a little higher than the average result of DSLRs. The clips show only minor aliasing and moiré effects. The color reproduction is excellent. The color errors are on a very low level and, just as in photo mode, only the dark blue nuances are exaggerated. Cyan is undersaturated, but skin tones are reproduced very well.

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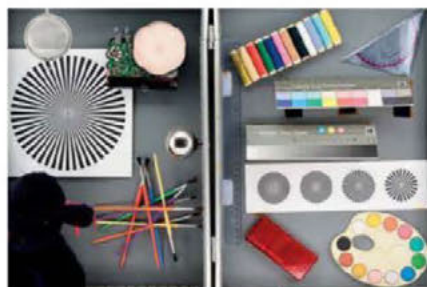
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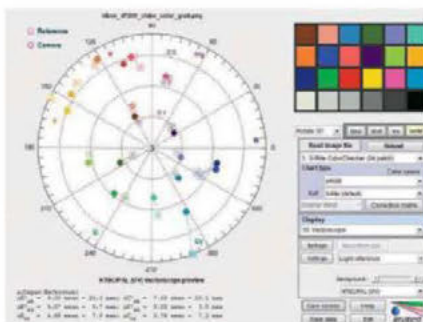
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The reproduction of the test box is very neutral. Colors are natural, with only the blue nuances being highly saturated. The sharpness and reproduction of fine details is very good without looking exaggerated or artificial.



The color reproduction is excellent. The color errors are on a very low level and, just as in photo mode, only the dark blue nuances are exaggerated. Cyan is undersaturated, but skin tones are reproduced very well.



The reproduction of the model shot is very good. The differentiation of the red color of her T-shirt is high, the skin tone reproduction is very good.

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The dynamic range results of the Nikon D7200 are high. In video mode the camera achieved a maximum of 10.2 f/stops, which is very good, but it doesn't reach the high level of 11.5 f/stops achieved in photo mode. The noise results of the test videos are similar to the photo mode. They show very clean results between ISO 100 and ISO 6400; at higher settings the noise becomes visible. In our opinion, because noise is much more irritating in moving images than in stills, we would suggest recording videos in the ISO 100 to ISO 3200 mode. ■

The Nikon D7200 has a list price of \$1,199 (body only). For more information, visit [www.nikonusa.com](http://www.nikonusa.com).

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# SAMSUNG NX500

WE TEST SAMSUNG'S COMPACT AND VERSATILE 28MP MIRRORLESS CAMERA IN HAWAII *By Jack Neubart*

I DIDN'T REALIZE HOW much I could appreciate a mirrorless CSC (Compact System Camera) till, after working with the Samsung NX500 for several days, I picked up my Nikon D610 DSLR and realized I was carrying a brick in my hands. Don't get me wrong, though. I still love my D610 and wouldn't trade it in for anything (not just yet), but the new NX500 felt like a feather around my neck and in my hands. Even when I added the relatively heavy 50-150mm S-series lens, the combo still left me feeling as if I were working with a lyre, not a harp. Admittedly, like the lyre, it's not as full-bodied an instrument, but the NX500 still plays a sweet tune.

## FEATURES & BUILD

The 28MP BSI APS-C (cropped) CMOS sensor NX500 is essentially a scaled-down NX1, but not by much. Except when it comes to price. The NX500 comes in at about half the price of Samsung's flagship NX1, under \$800, including the 16-50mm f/3.5-5.6 Power Zoom ED OIS kit lens. That price also includes a tiny clip-on flash (there's no built-in flash).

The only tangible difference I felt in the NX500, other than size and heft, was the lack of the electronic viewfinder (EVF) that I favored on the NX1. As someone who normally eschews LCD viewfinders, this was almost a deal-breaker from the get-go, but I made do when first introduced to the NX1's little sibling and eventually not only got the hang of it, but actually found the monitor advantageous on occasion and found myself taking to it more and more. The Super AMOLED (Active Matrix Organic Light-Emitting Diode) display provided a bright, contrasty screen that only met its match when confronted by a harsh sun over open water, when whale watching off the Hawaiian coast.

The camera was easy to handhold and work with, even with the 50-150mm f/2.8 S-series lens attached (with tripod mount removed)—a beautiful lens, by the way. Given that I'm more used to manual zooming lenses, I also found the 16-50mm f/2-2.8 S-series offered a distinct advantage over the much slower kit lens. You can't really home in on a focal length setting with the kit lens, since power zooming seems to jump from point to point—and good luck returning to the exact focal length as before, unless it's at either end of the zoom range. And when you shut down the camera, or it goes to sleep, the lens returns to its default 16mm position, which for me proves counterproductive.



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#### HUMPBACK WHALE BREACHING

You never know when a whale will breach, so you try different tactics, hoping that one will work. Given that we were constantly running from starboard to port and bow to stern for each whale sighting, I didn't realize till hours later that I had this shot. The inset shows the uncropped image. Technical info: 50-150mm S-series lens at 150mm (= 225mm, 35mm equivalent), shutter priority, ISO 400, f/2.8, 1/3200 second (cropped).

Still, the kit lens does offer OIS (Optical Image Stabilization), which also applies to the S-series. OIS on the power zoom worked fairly reliably down to 2 stops from the optimum handheld shutter speed (as defined by the reciprocal focal length rule:  $1/\text{Focal Length}$ ). You could stretch it to 3 stops if you're really careful. Keep in mind: by viewing/focusing on the monitor, you're not holding the camera in a way that promotes steady shooting—you'd need an optical or electronic viewfinder for that. OIS works fairly well with videos shot handheld, but you still get that jittery feeling of someone stalking you in the woods when shooting while walking with the camera.

#### TOOLS & FUNCTIONS

The multi-angle, three-inch, capacitive touchscreen Super AMOLED display on the back of the NX500 is the main conduit for doing practically anything. Many of the camera's primary functions are accessible here. In fact, tapping Fn on the display is the same as hitting the Fn (Function) button, providing access to numerous settings. Some of these same key settings, namely ISO, shutter speed, f/stop, exposure override, and white balance, are also accessible directly by hitting the iFn button on the lens. It may be redundant, but it does offer a convenient methodology for working with the camera. There is also a Menu screen icon, or use the Menu button to the right of the display for numerous other settings.



#### CAPTURING WILD BIRDS

I saw this Pacific golden plover (kolea, in Hawaiian) in the garden at the Hawaiian resort where we were staying just as I was about to have lunch, so I grabbed the NX500 with the 50-150mm S-series lens attached. The pond provided a buffer zone, so the bird was not frightened away. Even at 150mm, the focal length was not enough to isolate the bird, but with a 28MP capture, I had plenty of real estate for cropping in Lightroom. Technical info: ISO 100, f/4.5, 1/400 second.

Photos © Jack Neubart

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Other buttons to the right of the screen give you access to: drive functions (single, continuous normal, continuous high to 9 fps, burst—defaults to JPEG for up to 30 fps, variable self-timer, and various auto-bracketing functions); ISO (Auto, 100 to 25,600); and AF (choice of single AF, continuous AF, active AF—automatically detects movement and shifts from single to continuous, or manual focus). Additional controls found on the rear or on top include video record, exposure override (+/-), playback, mobile (for wireless operation with a compatible device with Samsung Camera Manager installed), and delete. The delete button doubles as a custom function, which, among other things, can be used as a depth-of-field (DOF) preview.

You'll also find two rotary dials on the camera to scroll through values and settings and the big daddy of them all, the shooting mode dial. In addition to the standard modes, the mode dial offers Smart (scene) modes, which include panorama (scene modes are captured as JPEGs), and Samsung Auto Shot, which is used to help you capture fast-breaking action (also as JPEGs).

And speaking of the flip side, when Auto Self Shot (selfie) is activated in the Menu and with the display flipped up, the camera employs face detection (but does not always succeed in this endeavor) and a two-second self-timer to capture a JPEG self-portrait. (Caution: Do not flip the display up all the way when using a flash seated

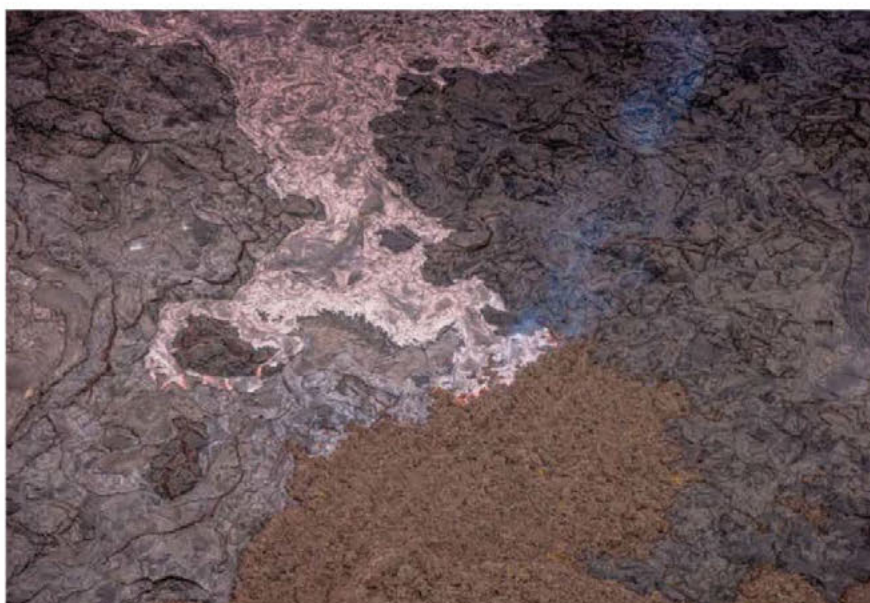
"When it came to focusing on the NX500, I found myself using touchscreen AF operations almost exclusively."

in the hot shoe—even the tiny flash that comes with the camera. This may damage the screen and the camera. In other words, you can't use fill flash for selfies.)

#### TOUCHSCREEN AUTOFOCUS

I found the user interface more inviting on this camera than on the NX1. Largely that's because the NX500 forced me to rely entirely on the AMOLED monitor's touchscreen, which also limited the array of buttons I needed to work with. Not that the NX1 had that many more buttons. It's just that the AF functionality on the NX1 was somewhat confusing, with buttons governing various AF settings being positioned all over the place. The NX500 has these settings more centralized for faster access.

When it came to focusing on the NX500, I found myself using touchscreen AF operations almost exclusively, something I'd mostly neglected on the NX1 because I had the EVF available to me. To access touchscreen AF, tap the icon on the left, just above the Menu icon. Touch AF automatically focuses on a single point (almost anywhere in the frame) that you select when tapping on the screen, without first requiring you to use the shutter button.



#### SHOOTING FROM A HELICOPTER

Thankfully the helicopter had a small open port so I could photograph these magnificent views of Hawaii unimpeded by the surrounding glass windows. With the 16-50mm S-series lens attached, I set the NX500 in shutter priority mode so I could set a 1/2000 second shutter speed and counter vibrations and movement of the helicopter.



#### HAWAIIAN SUNSET

To capture the rich color of the sunset, I set exposure override on the NX500 to -1 EV, and then made further adjustments in Adobe Lightroom. OIS came in handy, given that I was shooting with the 50-150mm S-series maxed out (= 225mm, 35mm equivalent) at 1/100 second. Technical info: ISO 400, f/8.



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AF Point, however, is a two-step process: tap the screen to select but not focus on a point; hit the shutter button to focus and shoot. One Touch Shot does it all—focuses and shoots when and where you tap the screen. I found the first two modes the most useful. Smartphone camera enthusiasts will likely default to One Touch Shot out of convenience and familiarity.

This is where it may get a bit confusing. If you've selected Multi AF (under AF Area in the Menu), the camera defaults to this AF Area mode after the initial Touch AF/AF Point exposure or if you take your finger off the shutter button and hit the shutter button a second time. So be sure to set AF Area to Selection AF to maintain your selected focusing point. And to further mystify you, Touch AF essentially converts to AF Point when you press the shutter button a second time.

"Tracking AF is especially inviting with moving subjects. Tap on a spot in the frame and the camera follows the movement, keeping the subject in focus."

Tracking AF is especially inviting with moving subjects. Tap on a spot in the frame and the camera follows the movement, keeping the subject in focus. If the subject moves out of frame, the focusing point defaults to the center of the screen (single selection point or multi-point, as specified under AF Area).

### CONCLUSION

My initial exposure to the Samsung NX500, on a press tour to Hawaii, left me with a very good feeling about the camera. It practically made me a convert to the mirrorless genre. I hadn't expected the NX500 to deliver a fraction of what it succeeded in capturing, constantly keeping pace and successfully recording moment after moment.

I loved using the touchscreen and found that Tracking AF was a decided asset. I did, however, find myself tapping the screen multiple times on occasion to lock in a focusing point. That said, AF operation was surprisingly fast, no doubt thanks to hybrid AF (a combination of phase-detection and contrast AF)



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**TRACKING AF, HIGH ISO, AND DIGITAL NOISE**

Following the movements of these talented luau performers at The Fairmont Orchid, Hawaii, resort after dark was not a major obstacle, thanks to Tracking AF on the NX500 (with the 50-150mm S-series zoom attached), which did a very competent job of holding focus (unprocessed images, except for cropping). High ISO levels allowed me to control motion. The cropped details in these Raw captures reveal an acceptable level of digital noise at ISO 6400, but considerably more noise at ISO 25,600.

and its plethora of sensors covering practically the entire frame. AF also came to the fore when shooting video with this camera, which was fun and engaging. (I have posted a couple of NX500 videos on YouTube.)

In my hands, the camera felt solid and ergonomic, with a firm grip. What's more, the brushed aluminum top plate impressed me as a nice touch. Handling the NX500, however, was not without its stumbling blocks.

I occasionally found myself inadvertently hitting buttons on back of the camera, including the video record button, but this no doubt was due to my unfamiliarity with the camera (still, it was annoying).

Color balance when using AWB consistently fell somewhat on the cool side, but was easily corrected. Noise levels were commendable up through ISO 3200, still got a passing grade at ISO 6400, but were somewhat noisy beyond that, although still usable.

All in all, I feel the camera has much to offer photo enthusiasts who want to get away from their cell phone cameras or simple point-and-shoots and move up to something with a bit more bite. I demanded as much of this compact system camera as I would have of my go-to DSLR, and the NX500 delivered almost unflinching. The price combined with its proven performance make the Samsung NX500 a great value. ■

## NX1 VS. NX500

Trying to decide between the Samsung NX1 and the NX500, which share very similar features but different camera builds? When it comes down to it, it's more about the feel of the camera in your hands and your mindset when working with it. I would use the NX1 as my main camera on assignment and the NX500 as backup. On the other hand, for tooling around town or on vacation, the NX500 would be my first choice.



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# THE WILD LIFE

## JOHN HYDE TREKS DEEP INTO THE WILDERNESS TO CAPTURE AMAZING IMAGES OF NATURE

By Jack Neubart

IT'S ONE THING TO sit in the safety of a Jeep or Land Rover while photographing the wildlife of the Serengeti. It's quite another to be one with nature, coming face to face with wild creatures on their level, and even to establish a certain rapport with the animals. Then add yet another ingredient: enduring harsh Arctic conditions for hours, if not days, on end, just to get that one great shot. Welcome to the world of wildlife and nature photographer John Hyde.

Based out of Juneau, Alaska, John Hyde photographs Arctic wildlife, primarily in Alaska but also in the Canadian Yukon. Much of that photography is done at Hyde's own pace. "Most of my wildlife and nature photography is shot for stock or editorial

use for books and magazine articles," Hyde notes, "but some is shot on assignment."

### WHERE THE WILD THINGS ARE

Making yourself in demand as a wildlife and nature photographer doesn't come without some risk, however. "I never really had an encounter with an aggressive animal looking to do me harm. That's not to say that I haven't come face to face with some dangerous wildlife. Quite the contrary. I've been in situations where a bear was as much surprised by me as I was by it.

"It's not always the animals that can put you in jeopardy in this kind of environment. More often the environment itself can be fraught with peril and can

certainly pose a challenge. It can suddenly produce situations where you're more at risk than when you are with your subjects, such as falling in a crevasse or a boat flipping over in freezing cold water. Thankfully, none of these things has happened to me—but that's only due to my diligence and preparation—and luck."

In pursuit of that one elusive wildlife shot, Hyde has stayed in one wilderness area for several days at a stretch, even a week, from dawn to dusk each day. Communicating with the outside world from these locations can be iffy. "Where I am, I normally can't use a cell phone, but I can usually use a satellite phone. That

### (ABOVE) EAGLE

"In the spring, large schools of herring spawn in very shallow water along the shoreline, signaling the bald eagles to gather in nearby trees and take part in this plentiful harvest. The toughest part for me is deciding which eagle to follow. So, to simplify things, I just pick a bird and stay with it, follow-focusing as it selects and dives after one fish with talons extended. I use a really small boat, so I'm low on the water and unobtrusive. The eagles don't see something in the water as threatening, as opposed to when you're standing on the shoreline. For these shots, I routinely use a 70-200mm on one camera body and a 100-400mm or a 300mm on the second body."





#### WOLF IN THE MIST

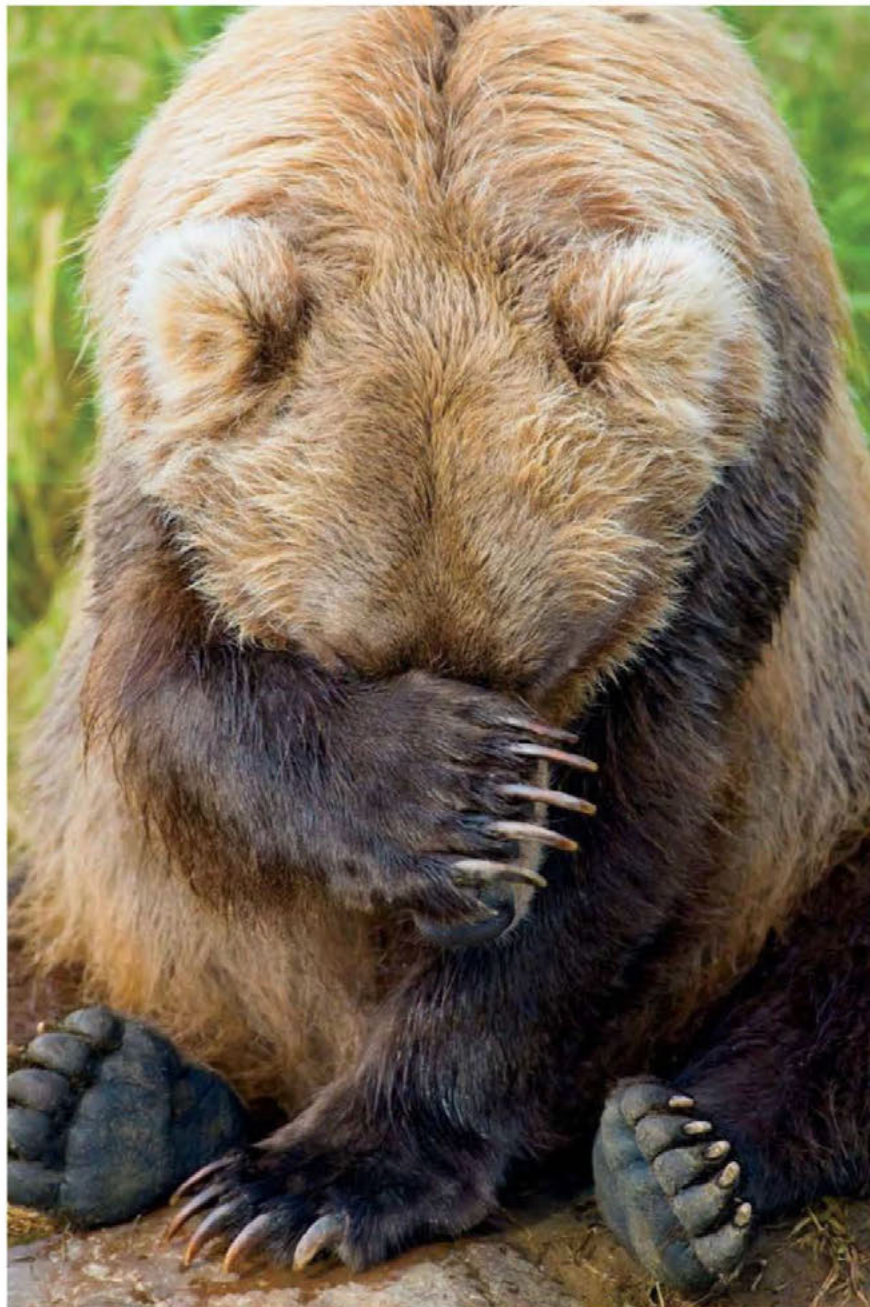
"The key to capturing a true wildlife portrait is to pick a spot where animals frequent and then wait for your subjects to arrive. I was passing through the area, walking around the lake to get to that big boulder where the wolf usually liked to rest and keep an eye on his territory. I was still quite a ways off when I saw him leap up onto the boulder, so I used a 600mm lens. It was early morning, a little past dawn, and the sun had come up over the mountain beyond to light up the mist hanging above the river and trees along the shoreline."



#### KILLER WHALE (ORCA)

"This was an unusually calm morning in Alaska's Inside Passage. I was in a small skiff and for about two hours this pod of orca traveled along the same route. The water was like glass and I could very easily see the whales as they approached, surfacing and diving under and all around me. The boat was moving slowly, at a steady speed, and, even though they would swim off for a few minutes, they continued to come back again and again."



**BROWN (GRIZZLY) BEAR**

This is a female brown bear that finally found a moment of peace at the end of the day after dealing with two rowdy cubs, which were now resting quietly out of frame. "I was hiking back to camp down the middle of a stream and came upon this scene. I was carrying the camera with attached 600mm lens over my shoulder on the tripod—a little risky but the only way I could get set up fast enough if I saw something promising. And it paid off."

said, I'm familiar enough with the areas I frequent so that I know where a cell phone can be used, so I take one with me anyway. What's more, here in Alaska, you can also get good coverage with a VHF marine radio." Hyde also recommends carrying a GPS.

**AMAZING ENCOUNTERS**

Staying safe does not mean you'll have a boring day. "I've had so many awe-inspiring experiences," Hyde says. "My most awesome wildlife encounters, and

also my best photographs, come from when I'm out in the field for a long time with a particular subject. They get to know me and accept my presence, and may even come close to check me out, but in a non-aggressive manner." For instance, Hyde enjoyed a rare wilderness bond with a lone wolf, which he photographed for three years, until it disappeared.

These encounters are not limited to land mammals. "I've had orcas (killer whales) come up to my skiff and swim around me, even rubbing on the bottom of

**PRO TIP: THE BEAR ESSENTIALS**

"Many Alaskan streams have considerable brush along their banks. And the bear trails are inside that brush. If you're walking along the bank, you could very easily be surprised by a bear, or vice versa. So the safest approach is to wade the stream down the middle, where there is greater visibility, thereby avoiding unwelcome encounters."

**BEAR TRACKS**

"We were on the Alsek River, in the Yukon, scouting for bear signs, when we came upon this scene. Now that it was getting colder, the glaciers that fed this river weren't producing as much meltwater and water levels had subsided, revealing these grizzly bear tracks in glacial silt. You know it's a grizzly because the claw marks are further from the toe pads than they would be for a black bear."

**PRO TIP: BECOME PART OF THE LANDSCAPE**

"It's important to get your subjects to accept your presence so that you can capture their natural behavior patterns. The animal's 'personality' isn't going to come out if it's disturbed. They'll be tense or frightened, and that's the last thing I want. It usually takes me at least a couple of days till I get to the point of 'familiarity' with any animal or group of animals in a particular place. In order to gain their trust, I find a spot that I think would be advantageous for the shot I want, and I just sit there, remaining unobtrusive for the entire period, say an 18- or 20-hour day. After a while, animals begin to think of you as part of the environment. That's when you get really natural behaviors, because you're not seen as a threat."





#### WOLF

"This is a wolf I'd been photographing for three years, so he was used to me and not disturbed by my presence. I was on my knees in the snow and he was about 40 feet away, engaged in play with a dog he had befriended. This was a wild wolf that chose to spend his winters along a lakeshore popular for recreational activities." Hyde used a 70-200mm lens for this shot.



#### ICE CAVE

This ice cave lies beneath the Mendenhall Glacier, in Juneau, Alaska. "I couldn't capture this scene adequately in one frame, even with the 16mm lens I was using. So I shot three overlapping vertical frames, at f/8 or f/11 for 15 seconds, and then stitched them together in Adobe Photoshop. The camera was mounted on a Really Right Stuff tripod standing in a stream and triggered using the self-timer on the camera."

"My most awesome wildlife encounters, and also my best photographs, come from when I'm out in the field for a long time with a particular subject."



#### BLACK BEAR

This was shot on ISO 100 film with a Canon EOS 1-series camera and a 600mm f/4 lens. "Black bears were feeding on salmon at a stream in Alaska's Tongass National Forest. When the salmon return to spawn, mostly in July and August, there are places where the fish congregate as they attempt to negotiate the next hurdle upstream, and that attracts lots of bears. There are huge boulders along this stream. To gain an advantage over the fish, this bear stood in the shadows between two boulders. But to catch a fish, he had to stick his face out into the late morning light. So I used that opportunity to photograph him, with a subtle hint of the river in the foreground."

the boat and coming up within a few feet, then just look at me. They're not afraid of you and they do it in a way that's not threatening."

Stranger still, perhaps, is this: "On two separate occasions, years apart, a female humpback whale swam up to my boat with her calf, and left the calf with me, as if I were a babysitter, while she went off to feed or do whatever. The calf stayed with the boat until the mother came back 20 or 30 minutes later and swam off with the youngster."

#### PERFECT MOMENTS

Capturing that one special moment is what John Hyde's photography is all about. "I like to capture a decisive moment in an animal's behavior. Something that has a lot of action, or that really portrays the animal's personality. To get that, you have to be really aware of body language and behavior. Just going out there and shooting something cold and not knowing that much about your subject puts you at a real disadvantage."

Hyde continues: "When you're trying to get that decisive moment, you have to be prepared. If you have your back turned or happen to be taking a bite out of a sandwich just when the moment happens,

#### JOHN HYDE'S WILDLIFE PHOTO BACKPACK

John Hyde carries his gear in various LowePro backpacks. That gear includes two Canon EOS-1D X bodies (each with lens attached "so I can react quickly to the situation"), with a choice of the following Canon lenses, many of them image-stabilized, updated versions: 70-200mm f/2.8L, 100-400mm f/4.5-5.6L, 500mm f/4L, 600mm f/4L, 14mm f/2.8L, 24mm f/1.4L, 24-70mm f/2.8L, and the two available 16-35mm lenses, plus the 45mm and 90mm tilt-shift optics. "I try to anticipate what I'd need, and then maybe add an extra lens. If I'm concerned about wildlife spotting my lens, I may drape a camouflage rain shield over it." What's more, Hyde uses a Really Right Stuff carbon-fiber tripod and ball head for landscapes—especially when shooting for HDR, or with wildlife when the 500mm and 600mm lenses are involved. Otherwise he prefers shooting wildlife handheld. And he's always using burst mode with wild animals. Occasionally he'll use a Canon 580EX II flash. As for focusing, Hyde opts for focus tracking with wildlife, adapting the sensor array and AF mode to the subject.

you've missed it. The moment is there, and then it's gone. That's why wildlife photography can be so challenging. You have to be 110 percent alert." ■

To see more of John Hyde's work, visit [www.wildthingsphotography.com](http://www.wildthingsphotography.com).



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Kodak TRI-X 120 - 5 rolls .....	\$24.24
Kodak Ektar 100-120 - 5 rolls .....	\$24.49
Agfa Vista Plus 400-36 .....	\$3.08
Agfa Vista Plus 400-24 .....	\$2.78
Agfa Vista Plus 200-36 .....	\$2.68
Agfa Vista Plus 200-36 .....	\$2.98
Agfa APX 400-36 .....	\$6.28
Agfa APX 100-36 .....	\$6.49
Agfa CT Precisa Color Slide- 100-36 .....	\$9.94
Ilford Delta 100 100' .....	\$64.94
Ilford Pan F 50-120' .....	\$4.94
Ilford Pan F 50 100' .....	\$50.94
Ilford Delta 3200-120 .....	\$5.94
Ilford Delta 3200-36 .....	\$10.98
Ilford XP-2 Super 36 .....	\$6.48
Ilford Delta 400-120 .....	\$4.94
Ilford HP5-120 .....	\$4.08
Ilford FP4 - 120 .....	\$4.38
Ilford Delta 100-120 .....	\$4.49
Ilford Pan F 36 .....	\$6.49
Ilford Delta 400-36 .....	\$6.28
Ilford Delta 100-36 .....	\$6.24
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Ilford SFX 200-36 .....	\$7.98
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TILTALL TC-224 Carbon Fiber TRIPOD .....	\$289.95
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TILTALL TE-284 TRIPOD .....	\$158.95
TILTALL TE-284 TRIPOD .....	\$184.95
TILTALL TE-01S Silver Tripod .....	\$174.95
TILTALL TE-01B Black Tripod .....	\$174.95
TILTALL TE-01G Gold Tripod .....	\$194.95
TILTALL MP-284C Carbon Fiber MONOPOD .....	\$99.95
TILTALL MP-315C Carbon Fiber MONOPOD .....	\$129.95
TILTALL MP-315 MONOPOD .....	\$75.95
TILTALL BH-30 TRIPOD BALL HEAD .....	\$148.95
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Manfrotto MT190CXPRO3 Section Carbon Fiber Tripod	
Legs with Q90 Column (Black) .....	\$326.99
Manfrotto MT055CXPRO4 055 Carbon Fiber 4-Section Tripod	
with Horizontal Column (Black) .....	\$459.95
Manfrotto 808RC4 3-Way Standard Head with Quick Release	
Plate 410PL (Black) .....	\$118.99
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(Black) .....	\$86.13
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# HOW TO SELL WILDLIFE AND NATURE PHOTOS

## TIPS FOR TURNING YOUR PASSION INTO A BUSINESS

By Maria Piscopo

**WILDLIFE AND NATURE PHOTOGRAPHY** is certainly a niche market but it turns out to be bigger than many think. According to our contributing photographers in this month's column, photos of nature and wildlife can be sold for a broad range of uses, including stock, editorial, book publishing, interior design, fine art, and even assignment. Other important questions we ask our wildlife and nature photographers this month include what does it take to make your passion for these subjects a business? How do you market and promote your images? What's been your favorite photo shoot? Special thanks to those who participated: Jeff Colburn, Gary Crabbe, Sean Crane, Bev Pettit, and Wendi Schneider.

**Q:** For your nature and wildlife images, how would you classify your clients and what percentage are stock photography?

**GARY CRABBE:** For my nature and wildlife images, the classifications of my clients fall across a fairly even spectrum. From a percentage-based perspective, probably the greatest use is sold to stock photography clients through my agents, and probably accounts for between 35 and 40 percent. Sales made directly to editorial magazines or book publishers accounts for another 15 to 20 percent. Sales of fine art prints to private individuals or businesses

through art consultants or designers can vary, but typically hovers between 20 to 30 percent. The greatest variance is probably for the commercial client assignment area, where depending upon how much time I spend marketing, is between 10 and 30 percent.

**JEFF COLBURN:** On average, my clients are middle and upper class people who like to own fine art prints of Arizona. About 95 percent of my photographs are sold as fine art through the New State Motor Building Gallery in Jerome, Arizona. I also do a few one-month shows at restaurants, businesses, libraries, and other locations. These

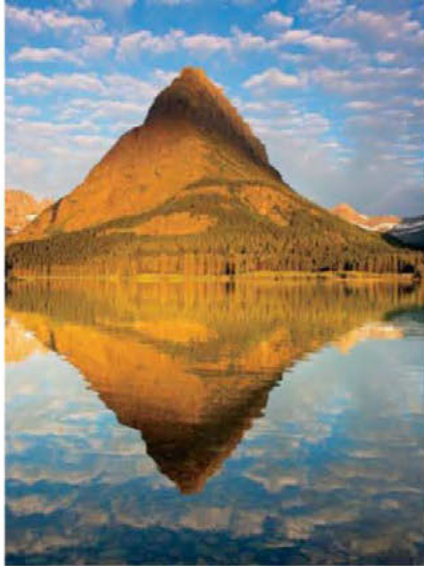
result in a few sales a year, too.

Interestingly, online fine art sales through my website account for only one to two sales a year, even though I receive between 2,000 and 3,000 visitors a month. Most people won't buy fine art photographs from a website unless they've seen what your images look like in person. The other 5 percent of my sales is a mix of stock and magazines.

**BEV PETTIT:** The majority of my clients are looking for fine art prints. I would say that about 80 percent of my clients are either private buyers or interior designers, looking for fine art pieces to decorate the walls of homes, restaurants, or offices. The other 20 percent of my clients would fall into the editorial and book publishing categories.

**WENDI SCHNEIDER:** At this point, 100 percent fine art prints, both through personal sales and through A Gallery for Fine Photography in New Orleans. I am not currently selling online. Wildlife is not my only subject, but accounts for most of my fine art sales in the last year. I do plan to market to interior designers, art consultants, and book publishers this year. I photographed dozens of book covers in the 1980s and '90s, but most of my connections have now moved on, so I will be starting over. There are so many avenues for having your images printed on items—your imagination and budget are the limitations.





**SEAN CRANE:** My day job is as a creative director at a big ad agency in New York. Wildlife photography is something that I do whenever I'm not convincing the world to buy things that they may or may not need. I make money with the photography, but it's always as a nice little bonus on the side, rather than a way to make a living. I do sell stock through Minden Pictures. This is a pretty new venture for me so I'm still waiting to see how it works out as a revenue stream. I also sell stock directly. I've been posting to my Photo of the Day blog for about seven years now and I get a lot of clicks, so my images tend to rank high in search engines. This is usually how clients find me, Google searches, and we take it from there. I also sell prints directly from my website. I'd say stock makes up 70 percent of my wildlife imagery sales for the year and prints the other 30 percent.

**Q: What works best for you when you are marketing and promoting your nature and wildlife images?**

**BEV PETTIT:** I'm not sure if one particular area of marketing is working better for me than others. I always try to find out how people hear about me. Many say "on the Internet." I feel that a combination of a professional and easy-to-navigate website that shows off my work, a Facebook business page that is also professional and up to date, and being found easily through Google searches are my best tools. I participate in four fine art exhibits each year and am represented in two fine art galleries in the Southwest USA. This is a good way for me to get my actual printed work out in front of the public. I enjoy working one-on-one with designers and providing their wall art needs for various decorating or design projects. I just completed a large installation

for the renovation of a prestigious private club and restaurant facility in Scottsdale, Arizona.

I look for as many avenues as I can to get my work out there into the world and seen by prospective clients. This could come in the way of magazine articles, fine art photography competitions, online galleries, e-mails, and in-person portfolios.

**JEFF COLBURN:** Marketing today is tough. While there are more outlets than ever, especially online, so many people are marketing their products and services that it's easy to get lost in the ocean of ads. Put a post on Facebook and five minutes later it's six screens down and usually never seen. As for print ads, most people don't even notice them.

I promote my photography e-books with Facebook, LinkedIn, and some photographer's forums. In forums, I have a footer that promotes my business. NatureScapes.Net carries some of my e-books, so my footer on their forum lists the e-books by title and says that they are available in the NatureScapes.Net store. I just started trying Instagram, but I'm not having much luck. As with Facebook, people are being hammered with lots of posts.

For my fine art clients I promote through articles on my blog TheCreativesCorner.com, press releases, and magazine articles. Many of my press releases have been printed verbatim in newspapers and magazines, and resulted in several interviews. I've also been a writer for over 40 years. I find that writing articles is a great way to promote my work, and I get paid, too. I've even had magazines pay me to publish my blog posts. It's a real win-win.

**SEAN CRANE:** My blog is my home base and where I want to direct all traffic. I use social media as a way to get more

people to sign up for the blog. Instagram is a great way to get noticed, but hasn't generated a significant amount of traffic back to my site. However, 500px is another platform that I like to post photos to and this seems to have a bit higher rate of click-through to my website.

**GARY CRABBE:** For marketing of nature and wildlife images, I primarily use a network of global stock agencies. For images I market myself, I generally prefer direct contact to clients, e-mails, blog posts, and social media to announce new work that's available for sale or licensing, new galleries on my website, or upcoming coverage and travels. In the past, I have used more traditional sources targeted to the nature and wildlife market, which have included things like sourcebook ads, listings on other websites, as well as some direct mail. However, those results were always mixed, and I found it more difficult to work or promote my images in such a non-personalized manner. I've always defaulted to the approach that seems to reinforce a smaller, more targeted audience, but with a much greater level of personal approach and interaction.

**WENDI SCHNEIDER:** I send e-mail blasts to my list approximately once a month or less, with an additional blast if something important comes up. I primarily use my Facebook business page, Pinterest, a bit on Twitter, and have just started on Instagram. A website is absolutely crucial. While I know that blogging is an ideal way to boost your SEO, I am somewhat of a private hermit who thrives on anonymity so I need to find a happy medium. While much of what I have read says that people want to hear about and see your process, I have found I get most responses simply by posting images. I look at all marketing and exhibiting as planting seeds for the future.



**Q:** What skills or areas of expertise (other than photography) do you think a nature and wildlife photographer has to develop for a successful business?

**SEAN CRANE:** Well, first and foremost is being a great business person. There are mediocre wildlife photographers who are great marketers and therefore are quite successful. Conversely, there are great photographers who are struggling to get noticed because they don't know how to (or want to) handle the marketing side of things.

**GARY CRABBE:** Obviously, marketing and business acumen go a long way toward helping promote your work to buyers. But the underlying tip that I always provide to workshop students and consulting clients is the idea of valuing your work first. I use the phrase, "If you don't value your work, no one else will." Also, you can have the best images in the world, but if you present yourself in a completely unprofessional manner, a client is likely to opt not to deal with you, or figure that you might be an easy target to take advantage of in terms of negotiating lower rates or free use. You need to have a professional-looking website. I do not consider Flickr, Facebook, Instagram, and even 500px professional websites for a photographer. You should have your own site; something that's yours and yours alone, so that when you send a link to a buyer, they get to see and know you and your work in a manner that's unique to you. You should know how to write a license and how to invoice a client, so that when those first few queries come in, you're not stuck like a first grader walking into a high school algebra class. Finally, any photographer needs to have the confidence and ability to negotiate with potential buyers. Knowing when to say no is as important as knowing when to say yes to a deal, just as it is knowing when it's the right time to click the shutter on your camera.

**JEFF COLBURN:** To be successful in the field of nature photography, you need to answer many questions about your art business, including: What does it cost to run your business? What is the cost of putting a print together (ink, paper, wire hanger, tax, shipping, etc.)? How much do you need to make each year to pay your living expenses? These are just a few questions you must answer in order to run a successful business. It's essential to know your costs so you know exactly how much you need to make.



There's a good cost of living calculator at [nppa.org/calculator](http://nppa.org/calculator). It's also a good idea to put together a business plan. You can find out how to do this online, and your bank can also help you with this. You also need to know enough marketing to

meet two goals: how to let people know you exist and how to stand out from the thousands of other photographers doing nature photography. Knowing this is the key difference between success and failure.



**BEV PETTIT:** I have found that my years in art education and working for corporate business while pursuing my career as a photographer has helped immensely in my own business. I have a pretty good understanding of what people want and how to deliver what they want. I am very customer oriented and try to meet my clients' needs the best that I possibly can. In my opinion, a wildlife photographer would benefit greatly from understanding animal behavior in addition to having a lot of patience and realistic expectations for travel conditions, which can be challenging at best.

**WENDI SCHNEIDER:** First and foremost, you must respect the wildlife and not intrude or interrupt behavior. I am quite certain that I unwittingly harassed several raptors when I was starting out by getting too close or staying too long. As for the business itself, you need to follow through, persevere, be a good listener, nurture your clients, go the extra mile without underselling yourself, and never undersell your gallery.

**Q:** What was the best (fun, lucrative, creative) photo shoot you have had in this field?

**SEAN CRANE:** As a creative director in advertising, I control all aspects of a shoot when working with a client. We control the lighting, the makeup, the location, everything. Wildlife photography is the complete opposite. You can never really fully prepare yourself for what might happen and you have to react quickly to whatever nature throws your way on any particular day. This is one of the things that I love about wildlife photography and every shoot tends to produce something that I didn't expect. I do remember one particular morning in northern Manitoba, Canada. Everything came together just right—the sun was just beginning to rise, lighting up the mist coming off the Hudson Bay, and just as the light was at its most spectacular, two polar bears wandered into the scene. Moments like that are few and far between, but the more you put yourself out there, the more likely good things are going to happen.

**GARY CRABBE:** One of my favorite nature and wildlife assignment shoots was probably also one of the most fun as well as being quite lucrative. I was hired by a hotel design firm to custom shoot large-format panoramic images that would be used as decor. All of the images and



shooting was done in redwood forests and oak woodlands here in California. In addition to natural forest detail shots, which would be used as in-room decoration, I had several images used as 20x50-foot ceiling murals, and the third image which was used as a three-wall 10x80-foot mural of a redwood forest printed in glass. I got to attend the opening of the hotel with my wife and some friends, and it was a real treat to see my images used that large in person.

**JEFF COLBURN:** My favorite happened when a friend invited us over for Thanksgiving dinner at her apartment in Sedona, Arizona. I thought it would be rude to take my camera. I didn't want her to think I was expecting to be bored and would run off to take pictures. My wife said I should bring the camera anyway and I will be forever grateful for her recommendation. We had only been in our friend's house for a few minutes when her neighbor came running in and said, "Quick, look out the back." We stepped onto her balcony and to the right saw a vivid double rainbow among the Red Rocks. And off to the left the light was playing on the Red Rocks as it peeked out from under the rain clouds. The sight was breathtaking. This was a slow-moving storm, and I was able to photograph the rainbow for almost an hour. These photographs have been good sellers over the years.

**WENDI SCHNEIDER:** A few years ago I captured a shot of a red-tailed hawk while driving down the highway in West Texas and knew that it was time to pursue this passion. A while later, I came across an offer for a workshop to study raptor photography. The draw was not only learning the basics, but also having the ability to photograph birds of prey up close. While I thrive on the calm and serenity that I feel

when outside listening to the wind and the birds, it can be absolutely brutal waiting for the right moment, especially on frigid, snowy days. One of my most successful photographs is of a red-tailed hawk in the snow. I was at a workshop with wildlife photographer Rob Palmer and the weather was miserable, but I ended up with some great images and developed a relationship with the woman whose raptors we worked with. I now donate a portion of proceeds from sales to some of these educational organizations and preserves.

**BEV PETTIT:** I have had some pretty great wildlife photography trips over the past few years. Spending a month shooting at various locations in West Africa in 2013 is at the top of my list. Another was photographing the wild horses on Cumberland Island, Georgia. But by far the most trying, challenging, exhilarating, and fantastic photo shoot I have ever experienced was my trip to Sable Island in September of 2014. The wild horses of Sable Island are some of the last true wild horses left on the earth. The 350 horses on this narrow sliver of an island 150 miles off the coast of Nova Scotia are highly protected by the Canadian government. It is a very difficult place to visit. Few people make it to the island due to the high cost of getting there, the impossible weather conditions most days of the year, and the extremely limited number of visitor permits available at any given time. I was one of the lucky ones and deem this a photo trip of a lifetime. ■

## RESOURCES

**JEFF COLBURN:** [jeffcolburn.com](http://jeffcolburn.com)

**GARY CRABBE:** [enlightphoto.com](http://enlightphoto.com)

**SEAN CRANE:** [seancrane.com](http://seancrane.com)

**BEV PETTIT:** [bevpettit.com](http://bevpettit.com)

**WENDI SCHNEIDER:** [wendischneider.com](http://wendischneider.com)



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# CAPTURING LANDSCAPES WITH LONG LENSES

USING TELEPHOTOS AND LONG ZOOMS TO SHOOT LANDSCAPES CAN YIELD SURPRISINGLY STELLAR RESULTS

By David Shaw

**MY WIDE-ANGLE LENS** was perfect when the late-evening shadows crept across the mountains of the Arctic National Wildlife Refuge. The sweeping landscape, wide open and treeless, was suited to the wide field of view. Until, that is, the weather turned, and with it, my perspective on that wild place. I woke one morning to rain pattering intermittently on the nylon of my tent. Between showers, I emerged to find the mountains obscured by scudding clouds. The upper slopes, when visible, were splotted with fresh snow. Patches of sun broke through periodically, tossing yellow light across the green tundra and wildflowers of the valley floor.

A splash of light on a distant peak made me reach for my telephoto. It was a Canon 100-400mm, a lens I'd brought primarily for wildlife. I zoomed in and out, and watched the field of view narrow and expand. Through the long glass I could focus on the elegant details: clouds rolling past a rocky outcrop, slopes of green tundra, even wildflowers with a backdrop of the river's brown water. When I focused on the foreground, the depth of field compressed, allowing only a narrow sliver

of the scene to fall into focus. The stormy day became a playground; the long glass a new door on landscape photography.

Telephotos are surprising tools for photographing the landscape. Broadening the field of view with an increasingly wide angle will have profound effects on the image, so too does narrowing it with a telephoto. Each focal length has advantages and challenges. Here are my thoughts on shooting landscapes at different telephoto lengths.

A storm rolls over the Kelly River Valley in the Noatak National Preserve in the northwest corner of Alaska. I was fleeing down a mountainside with a group of clients when I made this image. The longest lens I had with me reached to 105mm but it was enough to isolate the storm, the colorful tundra, and the river in the valley below.

## 70-100MM

Just a step above the “normal” lens lies the short telephotos. Many frequently used zooms, such as my much-used and loved Canon 24-105mm L include focal lengths that fall into this category. Since images made in this range are not much above a standard lens, they share many of the same characteristics. Substantial depth of field remains, even at fairly wide apertures, and the field of view is wide enough to include large features of the landscape, such as entire mountains, or broad bends of a river.

While holding on to some of the advantages of a wide-angle or standard lens, short telephotos also retain some of the challenges. This range is not for landscape details alone, rather substantial elements of sky or foreground are often included, reminiscent of classic landscape composition. As in a wide-angle landscape, you must consider the many different layers of an image (foreground, mid-ground, background, subject, etc.). Unlike a wide shot, however, depth of field is compressed, so when possible, use a high f/stop.



Think of this range as a tool to simplify your composition, but that doesn't mean it's easy to make an image work.

### 100-200MM

As I was paging through my Lightroom catalog looking for images to accompany this article, I was surprised to find that this range of focal lengths (100-200mm) is actually one of my most used. I expected to find a lot of portraits and action shots, but was surprised to see how many landscapes appeared when I filtered them out. In fact, some of my very favorite images appeared on my screen.

A couple of years ago, I was hiking with a group of clients on a remote mountainside in far northwestern Alaska. It was late autumn, my last trip of the season, and the tundra below was a mosaic of red, yellow, and orange. We'd summited a small peak and were on our way down when ominous clouds appeared on the far side of the valley. From the way the precipitation blew, I could tell that those clouds held not rain, but snow, and a lot of it.

My mind went into two directions at once. The guide in me, safety oriented and risk-averse, told me I needed to get down with my clients, and fast. We still had a couple thousand feet of descending, plus three or four miles to walk to reach the safety of camp. The photographer in me, however, wanted to drop my pack, pull out the camera, and go to work. I compromised, pausing regularly to shoot as we made our careful way down. I relied heavily on a midrange telephoto, reaching out with my lens to find the patterns in the tundra, the rolling storm, the sweep of the river.

Too long to show a broad field of view, I isolated the components that told the story. I ignored the foreground, cropping it, in camera, completely out of the composition. From my perch high above the river, everything in the frame was far away, maximizing depth of field and relieving any necessity to choose a focal point. And that is where this range of telephotos often succeed: distant landscape elements can be shown in context, sharp from front to back.

### 200-400MM

High in the Himalayas of Bhutan, I rose before daybreak and walked a quarter mile to a mid-valley hillock. At 15,000 feet even that small exertion winded me. I recovered, gasping, and watched a dense bank of fog roll past in the gray light. As morning dawned, the fog began to break, alternately revealing and hiding narrow



A creek lies on the bottom of my property near Fairbanks, Alaska. In the winter, liquid water will occasionally push to the surface of the ice and on brutally cold days, that water creates fog. This was near midday in the peak of winter, but the sun was only a bit above the horizon creating these steeply angled beams through the fog. A 200mm lens isolated it nicely.

views of the surrounding peaks. The rocks and glaciers of the mountains high above the fog layer were lit by bright morning sun, while I shivered in damp mist.

Through the 24mm lens on my camera, I saw little but gray. Frustrated, I pulled the lens off and replaced it with a long telephoto zoom. When a window opened in the fog, I followed it with my camera waiting for something to appear. Letting the clouds do my composition for me, I snapped images: a glacier, a jagged ridge, and a spear-headed peak.

When the circumstances are right, a long telephoto can be a trip-salvaging tool for a landscape photographer. The

morning described above was the one chance I had to make images from that camp high in the mountains. Without a long lens, that sweet light touching the mountains above would have appeared as a tiny speck in a sea of gray.

Rarely is there much depth in images made in this focal range. Depth of field is shallow at most apertures, and it can be difficult or impossible to retain focus in all of the image's layers. Select your focal point carefully, and then compose to suit the story you want to tell. The focal length may cut the landscape down to smaller parts, but that doesn't make your composition any less important.





A shutter speed of 1/8 of a second at 195mm turns the rushing water of the Colorado River in the Grand Canyon into a bluish blur. The smooth water and the sharp stones create an interesting juxtaposition, and an image that could only be created using a telephoto.



A high ridge of the mountain Jhomolhari, a mountain in the Himalayas of Bhutan, appears through the morning fog. My 400mm lens allowed me to focus on this narrow window in the cloud layer when a wide-angle shot would have appeared almost entirely gray.



A black-browed albatross sweeps over the rocky shore of Steeple Jason Island in the Falkland Islands. This image was made using a 500mm f/4 lens, handheld from the deck of a small ship. The long lens allowed me to integrate the interesting characters of the landscape with the birds that were nesting in the background and flying over the waves.



The Salar de Uyuni in the Altiplano of Bolivia is one of the weirdest landscapes I have ever photographed. Here, several piles of harvested salt are piled above the water line to dry. I wanted to focus on the way these triangles of salt echoed the shapes of the mountains and volcanoes in the distant background. A short telephoto allowed me to include both.

#### 400MM AND ABOVE

There aren't many photographers who spend thousands of dollars on a 500mm or 600mm f/4 lens to shoot the scenery. And yet super telephotos are capable of surprising and unique landscapes. I'll be honest, my big glass stays at home unless I expect wildlife. In the backcountry, where I shoot a lot, my 500mm f/4 is just too big to lug around. However, on a number of occasions it's proved useful for making some atypical images of the landscape.

Several years ago I was leading some bird photographers on a trip to the coastal plain of the Arctic National Wildlife Refuge. We were camped near the coast, on a river delta just spitting distance from the Arctic Ocean. We had been happily exploring the tundra, photographing the abundant birds and rarely paying attention to the landscape. But one evening (late night really), the never-setting sun was at its lowest, and shed golden light across the expanse of tundra between us and the mountains. It was crystal clear, every detail visible in the distant peaks. The

tripod-mounted 500mm leaning atop my bruised shoulder was the perfect tool. The great distance to the mountains allowed large swaths of the coastal plain and foothills to maintain focus. Everything was compressed, making elements that were miles apart appear close to one another. I played with the light on the mountains, exploring the Brooks Range with my camera from 50 miles away.

The next morning it was still clear when a herd of caribou, some 10,000 strong, passed by a few hundred yards from our camp. The long glass combined with the animals was perfect for showing what a dramatic and wild place the Arctic National Wildlife Refuge is. The compressed field made the distant mountains loom close, providing more context for the caribou in the foreground.

Super telephotos are all about compression and isolation. The landscape through long glass looks nothing like it does to the human eye. Distant elements grow close, and unless your focal point

is in the distance, depth of field is compressed to a few feet. These lenses are a tool for isolating patterns, compressing distances, and exaggerating sizes.

#### DON'T LEAVE HOME WITHOUT THEM!

When it comes to landscape photography, telephoto lenses are often forgotten. They slip to the bottom of packs, or are simply left at home. Your bag or closet are bad places for telephotos. They should be accessible, ready to help you see your landscape in a new and creativity-inspiring way. Pull it out, click it onto your camera, and explore the way the lens changes your perspective. ■

*David Shaw is a professional conservation photographer, writer, biologist, and wilderness guide. He makes his home in Fairbanks, Alaska, but travels widely to photograph and lead others into wild and remote landscapes. Find out more about Shaw, his workshops and tours at [www.wildimagephoto.com](http://www.wildimagephoto.com).*

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Primeval Tengger Caldera (Indonesia) with active volcanoes Bromo and Semeru shortly after sunrise.

# THE LIFE OF A LAVA HUNTER

## DODGING NATURAL FIREWORKS & CINDER BOMBS AS A PROFESSIONAL VOLCANO PHOTOGRAPHER

By Adrian Rohnfelder

### KAMCHATKA, EASTERN RUSSIA:

I am standing at the crater rim of the active Tolbachik volcano, taking pictures. Suddenly the volcano spits out a red-glowing lava bomb that is heading precisely in my direction. Luckily enough it doesn't hit me but lands just by my side. Although afraid at first, I delightedly grab my camera: this is a rare opportunity to take close-up shots from still very hot and glowing cinder bombs.

Volcanic photography potentially is a dangerous job, but anyone facing these dangers will be rewarded with the most incredible pictures from the heart of our planet. My interest in volcanoes began in 2005. I spent three months in Peru and Bolivia. It was by sheer coincidence that I climbed up the active volcano "El Misti" that stands at 5,822 meters (19,101 feet) above sea level. During the climb I was remarkably aware of the simmering power deep down under my feet and it was in this barren landscape that I felt extremely close to nature and the whole, unspoiled planet.

Ever since then, fire mountains and desolate landscapes have fascinated me. I am often asked why I feel so magically attracted to volcanoes. Volcanoes allow me to feel the power of nature in every sense: the ear-battering explosions, terrifying shock waves, falling lava bombs, and the unbearable heat of nearby floating lava—plus the optical spectacle of endless fireworks.

### CHALLENGES AND REQUIREMENTS

Being a volcano photographer demands physical, psychological, and technical skills. For starters, some of the most attractive volcanoes are located in the most inhospitable territories. Long treks, heavy backpacks, limited food rations, and rough terrain are often the conditions involved while trying to reach my "hot" destination.

Safety is a paramount issue for me and I try to avoid taking risks, which isn't always easy considering the potentially spectacular photo opportunities that are being missed. Special protective

equipment such as helmets and gas masks are essential. At the Kilauea volcano in Hawaii, for example, the deceptively harmless-looking escaping gases would otherwise lead to death within the shortest time. Other dangers in these fiery places come from unstable crater edges, due to loose materials, and stray lava bombs. In addition to the precautions mentioned above, it is important to spend some time monitoring the intensity and direction of volcanic activity before moving closer. Working out an escape route on solid ground in advance has already proven to be quite useful, for instance at the Etna in Sicily.

If suddenly hell erupts at the volcano, it's not only essential to find perfect image compositions and camera settings but also to keep an eye on the complete environment. In particularly dangerous situations, companions are highly recommended to take turns in shooting pictures and volcano watching. If these guidelines are followed, taking close-up photos of active volcanoes is not as

dangerous as most people believe—I am often reproached as I have a young family. Certainly, volcano photographers are looking for an adrenaline rush but they are definitely not suicidal.

#### PHOTO GEAR FOR CRATER HOPPING

My photographic equipment has a total weight of approximately 17 pounds and consists of a five-year-old Canon 5D Mark II with two fast lenses, a Canon 24-105mm and a 70-200mm. Sometimes I also pack an extreme wide-angled lens.

However, I mainly prefer taking pictures with the 24-105mm lens, which I believe covers an optimal bandwidth. One reason for this is the sensor can easily get ruined by fine ash while changing lenses. The main reason, however, is the permanent danger of missing the perfect shot during a change. I'd rather take a larger lens angle and choose the perfect image section on the computer at home.

As additional protection for the lenses I continuously use a screwed-on UV filter. Further instruments in my luggage are

a solid tripod and a remote control for long exposures and shootings in the dark, partially under very windy conditions. For snapshots and recordings during the trek, I also carry a Panasonic Lumix LX7, which fits into my trouser pocket.

Although the Canon 5D Mark II has a dustproof metal body, I always protect it with an additional waterproof bag. I only remove the camera to take pictures and have the equipment professionally cleaned after every trip. Another important tip is to regularly check the ground temperature to avoid shoes and tripods from melting and to protect other equipment from heat damage.

#### PHOTO TIPS FOR VOLCANOES

A volcanic firework at night is a popular photo motif. When taking pictures at night the photographer is confronted with various problems. From personal, bitter experience, I recommend taking several manually focused test shootings in the dark in order to meet the optimum focus point even if the autofocus system doesn't

work at night. Another problem is the lack of definition in the darker areas, especially the volcano itself. This is why I plan my trips at a time around the full moon.

The third difficulty lies within the high risk that lights may blow out to white in the very hot and therefore extremely bright areas of escaping lava. Therefore I usually choose the low ISO number 100 when longer exposure times, up to 20 seconds, are necessary, for example to capture magnificent fireworks. Longer exposures in the darkness generate a typical grain. To avoid this I activate the integrated noise reduction already while taking the photo.

As for daytime settings, I usually rely on the semiautomatic system of the camera while I manually set ISO and aperture in order to achieve different messages in my pictures. There is an immense creative scope for this: high ISO numbers up to 800 are used to photographically freeze single lava lumps, while low ISO numbers in combination with a small aperture are taken to reach blurring effects of escaping lava and ash clouds.



Eruption of Semeru volcano in early morning light, Indonesia.



Eruption of Stromboli volcano during blue hour, Italy.



Hot and endless lava fields at Kilauea volcano, Hawaii.



Fiery nights: lava ocean entry at Kilauea volcano, Hawaii.





Lava ocean entry at Kilauea volcano, Hawaii.



Eruption of volcano Fuego in Guatemala during sunset.



Eruption of Fuego volcano in Guatemala.



Photographers at work at lava lake Erta Ale, Ethiopia.

Generally, a cloudy sky is beneficial for daytime settings, since bright sunshine makes escaping gases look like a white veil on pictures. As for volcano photography, the best moment for me is the so-called blue hour (dawn/dusk). The hot lava already shows a red glow and there is still enough definition in the darker parts of the picture.

I also want to comment on general image composition. Of course, first and foremost the focus within the creative scope mentioned above is on eruptions and fireworks itself. From my point of view, however, and to gain better knowledge of details, it's also essential to show some pictures of the eruption in its context. This means the volcano's surroundings as well as respective proportions, but also wide shots, which show the proportion of the volcano to the discharged ash clouds.

#### PHOTO PROCESSING

For photo processing, I use the reliable and powerful Adobe Lightroom. Photo editing for me involves first eliminating image errors such as dust spots and of course the choice of the perfect image section. The next step is adapting and optimizing exposure, contrast, light, shadows, clarity, and saturation until the photograph is

reflective of the live experience I had when taking the picture. For me there is no alternative to taking pictures solely in Raw mode. It's amazing how at first glance invisible information can be coaxed out of Raw image files.

During photo processing one has to consider or at least know that lava only consists of red and orange shades but never of yellow or even white ones. In the last step I take care of noise reduction, either with the usual tools of Lightroom or with Google's Nik Collection. As for printing, conveying the heat and the glowing effect for me works best on metallic paper.

#### VOLCANOES WORLDWIDE

With all this information at hand, where in the world do you find some of the most attractive and photogenic "hot spots"? The most photogenic "hot spots" are in the so-called Ring of Fire with over 75 percent of the world's volcanoes. This horseshoe-shaped area extends from Antarctica over New Zealand, Indonesia, Japan, East Russia, Alaska, the United States and Central America to Chile in South America.

More or less easily accessible and therefore highly recommended are the continuously erupting volcanoes at

Vanuatu (South Pacific) and the volcanoes in Indonesia and Japan that are among the most active of the Ring of Fire. No less attractive but only accessible by a long trekking are the volcanoes of Kamchatka, Alaska, and Chile.

Europe also boasts some very worthwhile volcano destinations. Apart from the volcanic island of Iceland, there is the permanently active Stromboli, as well as the regularly explosive Etna in Sicily, Italy. One of my favorite "hot spots" is the island of Hawaii with the striking spectacle of the lava ocean entry.

At the end of the day the photos themselves possibly won't convey the extreme thrill of taking them, but in a breathtaking way they remind us that we all actually live on a great ball of fire. ■

*Adrian Rohnfelder is a travel photographer with a focus on extreme landscapes. During trips to Indonesia, Hawaii, and Guatemala, he developed a special interest in active volcanoes and has recently returned from an adventurous three-week expedition to Kamchatka, East Russia. In 2013 he started his own photographic business as a second source of income. You can see more of Rohnfelder's work at his website: [www.adri.de](http://www.adri.de).*

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16/2.8 (49ø).....	248.00	35/1.8 OSS (49ø).....	448.00
20/2.8 (49ø).....	348.00	35/2.8 ZA (49ø).....	798.00
24/1.8 (49ø).....	1,098.00	50/1.8 OSS (49ø).....	298.00
30/3.5 Mac (49ø).....	278.00	55/1.8 ZA FE (49ø).....	998.00
10-18/4 OSS (62ø).....	848.00		
16-50/3.5-5.6 OSS (40.5ø).....	348.00		
16-70/4 ZA OSS (55ø).....	998.00		
18-55/3.5-5.6 (49ø).....	298.00		
18-105/4 G OSS (72ø).....	598.00		
18-200/3.5-6.3 (67ø).....	898.00		
18-200/3.5-6.3 OSS (62ø).....	848.00		
18-200/3.5-6.3 PZ OSS (67ø).....	1,198.00		
24-70/4 ZA OSS (67ø).....	1,198.00		
28-70/3.5-5.6 OSS (55ø).....	498.00		
55-210/4.5-6.3 OSS (49ø).....	348.00		
70-200/4.0 G OSS (72ø).....	1,498.00		

#### Digital Lenses

16/2.8 Fish-eye.....	998.00	20/2.8 (72ø).....	748.00
24/2 Carl Zeiss (72ø).....			1,398.00
30/2.8 DT Macro (49ø).....			198.00
35/1.4 G (55ø).....	1,498.00	50/1.8 DT (49ø).....	168.00
35/1.8 DT (55ø).....	2,218.00	50/1.4 (55ø).....	448.00
50/1.4 Carl Zeiss ZA (72ø).....			1,498.00
50/2.8 Mac (55ø).....	598.00	85/2.8 (55ø).....	298.00
85/1.4 Carl Zeiss (72ø).....			1,698.00
100/2.8 Macro (55ø).....			798.00
135/1.8 Carl Zeiss (77ø).....			1,798.00
135/2.8 STF (72ø).....			1,398.00
300/2.8 G APO II (42øR).....			7,498.99
500/4 G (42øR).....			12,998.00
11-18/4.5-5.6 DT (77ø).....			798.00
16-35/2.8 ZA SSM II (77ø).....			1,998.00
16-50/2.8 DT (40.5ø).....			798.00
16-80/3.5-4.5 DT (62ø).....			998.00
16-105/3.5-5.6 DT (62ø).....			698.00
18-55/3.5-5.6 DT SAM II (55ø).....			218.00
18-135/3.5-6.3 (62ø).....			498.00
18-250/3.5-6.3 DT (62ø).....			1,348.00
24-70/2.8 Carl Zeiss (77ø).....			1,998.00
28-75/2.8 (67ø).....			898.00
55-200/4.0-5.6 DT (55ø).....			198.00
55-300/4.5-5.6 DT (62ø).....			298.00
70-200/2.8 G SSM II (77ø).....			2,998.00
70-300/4.5-5.6 G (62ø).....			998.00
70-400/4.5-6.8 G2.....			2,198.00
1.4x Teleconverter.....	548.00	2x Teleconverter.....	548.00

## Panasonic Lumix DMC-GM5 Mirrorless System Camera

- Venus Engine Image Processor • Micro 4/3 System
- 3.0" LCD • SDHC/SDXC Card Slot
- Full HD 1080p Video at 60 fps • Built-in Wi-Fi
- MECA O.I.S. and Contrast-Detection AF
- Highly Compact Magnesium Alloy Body
- Available in Black or Red



with 12-32mm Lens #PADMCMG5K\*

16 Mega Pixels

## Panasonic Lumix DMC-GX7 Mirrorless System Camera

- Micro 4/3 System • 3.0" Tilting LCD Touchscreen
- SDHC/SDXC Card Slot • 90° Tilting EVF
- Full HD 1080p AVCHD Video at 60 fps
- Focus Peaking and Magnification Windows
- Built-in Wireless and NFC Connectivity
- Available in Black or Silver



with 14-42mm II Lens #PADMCGX7K\*

16 Mega Pixels

## Panasonic Lumix DMC-GH4 4K Mirrorless System Camera

- DCI 4K 4096x2160 at 24p • Full HD up to 60p
- UHD 4K 3840x2160 at 30p/24p • 3.0" LCD
- Live View Finder • High-Speed 49-Point AF
- 4:2:2 8-Bit or 10-Bit HDMI Output
- Support for 59.94p, 23.98p, 50p, & 24p
- Magnesium Alloy, Weather-Sealed Body



Body Only #PADMCGH4\*

16 Mega Pixels

## PENTAX K-3 DSLR Camera

- PRIME III Image Processor • 3.2" LCD
- Pentax K Lens Mount • Dual SD Card Slots
- In-Camera Shake Reduction Stabilization
- Full HD 1080i/p Video Recording
- Continuous Shooting up to 8.3 fps
- Weather-Sealed Magnesium Alloy Body



Body Only #PEK3

23 Mega Pixels

## SONY Alpha A6000 Mirrorless System Camera

- 3.0" Tilting LCD • Uses Sony E-mount Lenses
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo Card Slot • Up to 11 fps Shooting • ISO 25600
- Full HD 1080i/p AVCHD Video at 24/60 fps
- Built-in Wi-Fi Connectivity with NFC
- Available in Black or Silver



Kit with 16-50mm OSS Lens #SOA6000\*

24 Mega Pixels

## SONY Alpha A7II Mirrorless System Camera

- Full Frame Exmor CMOS Sensor • 3.0" Tiltable LCD
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo Card Slot
- Weather-Resistant Magnesium Alloy Body
- Built-in Wi-Fi and NFC • 5-Axis SteadyShot INSIDE Stabilization • Full HD XAVC S Video & S-Log2 Gamma



Body Only #SOA72

Kit with 28-70mm OSS Lens #SOA72K

24 Mega Pixels

## SONY Alpha SLT-A58 DSLR Camera

- 2.7" Tilting LCD • Uses Sony Alpha mount Lenses
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo Card Slot • Full HD 1080i/p Video at 60 or 24fps
- 5fps Full Resolution Continuous Shooting
- SteadyShot INSIDE Image Stabilization
- ISO 100-16000 with Noise Reduction



DT 18-55mm SAM II Lens #SOLTA58K

20 Mega Pixels

## SONY a77 II DSLR Camera

- 3.0" 3-Way Tilting LCD • 12fps Shooting
- Uses Sony Alpha mount Lenses
- Full HD 1080p Video Recording at 60 fps
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo, XC-HG Duo Card Slot • ISO 25600
- Built-in Wi-Fi Connectivity with NFC



Body Only #SOA772

24 Mega Pixels

## LENSES AND FLASHES for DSLR & Mirrorless Cameras

### TAMRON

Six-Year Warranty

Di for both digital and film SLR cameras  
Di-II for Digital SLRs Only Di-III for mirror-less cameras Only Rebates Expire 6-30-15

	C = Canon	N = Nikon	P = Pentax	SA = Sony Alpha	SE = Sony E Mount			
** Price After Rebate	SKU #	Avail. for	Rebate	Price				
Di-II 60mm f/2.0 LD IF Macro (55ø)	#TA602DI*	C, N, SA	—	524.00				
Di 90mm f/2.8 Macro (55ø)	#TA9028M*	C, N, P, SA	—	499.00				
Di 90mm f/2.8 SP Macro VC USD (58ø)	#TA9028VC*	C, N	—	749.00				
Di 180mm f/3.5 LD IF Macro (72ø)	#TA18035*	C, N, SA	—	739.00				
Di-II 10-24/3.5-4.5 (77ø)	#TA102435*	C, N, P, SA	—	499.00				
Di-II 16-300/3.5-6.3 VC PZD (67ø)	#TA1630035DI*	C, N, SA	\$50	579.00**				
Di-II 17-50/2.8 XR LD IF Asph. (67ø)	#TA175028*	C, N, P, SA	—	499.00				
Di-II 17-50/2.8 XR VC LD IF Asph. (67ø)	#TA175028*Q	C, N	—	649.00				
Di-II 18-200/3.5-6.3 (62ø)	#TA1820035*	C, N, P, SA	—	199.00				
Di-III 18-200/3.5-6.3 VC (62ø)	#TA1820035S*	SE Black or Silver	—	739.00				
Di-II 18-270/3.5-6.3 VC PZD (62ø)	#TA18270*	C, N, SA	\$100	349.00**				
Di 24-70/2.8 VC USD (82ø)	#TA247028*	C, N, SA	\$100	1,199.00**				
Di 28-75/2.8 XR (67ø)	#TA287528*	C, N, P, SA	—	499.00				
Di 28-300/3.5-6.3 XR LD (62ø)	#TA2830035XD*	C, P, SA	—	419.00				
Di 28-300/3.5-6.3 VC PZD (67ø)	#TA2830035DI*	C, N, SA	—	849.00				
Di 70-200/2.8 LD IF Macro (77ø)	#TA7020028M*	C, N, P, SA	—	769.00				
Di 70-200/2.8 SP VC USD (77ø)	#TA7020028*	C, N, SA	\$100	1,399.00**				
Di 70-300/4-5.6 LD Macro (62ø)	#TA70300M*	C, N, P, SA	—	199.00				
Di 70-300/4-5.6 VC USD (62ø)	#TA70300*	C, N, SA	\$100	349.00**				
Di 150-600/5-6.3 VC USD (95ø)	#TA150600S*	C, N, SA	—	1069.00				
1.4x SP AF Pro Teleconverter	#TA14XP*	C, N	—	224.00				
2x SP AF Pro Teleconverter	#TA2XP*	C, N	—	254.00				

### ZEISS Touit Mirrorless Lenses

These fully-compatible lenses with autofocus expand the capabilities of both the Sony NEX and Fujifilm X camera systems with outstanding optical quality.

	Fujifilm X	Sony NEX	Price
12mm f/2.8 (67ø)	#ZET2812X	#ZET2812E	999.00
32mm f/1.8 (52ø)	#ZET1832X	#ZET1832E	720.00
50mm f/2.8M (52ø)	#ZET5028MX	#ZET5028ME	999.00

### Tokina

DX – for Digital SLRs Only FX – Designed for full frame DSLRs

	Canon EOS	Nikon AF	Rebate	Final
Rebates Expire 6-30-15 * Price After Rebate				
FX 100/2.8 Pro D Macro (52ø)	#T010028PCAF	#T010028PNAF	—	379.00
DX 10-17/3.5-4.5 ATX Fisheye	#T0101735CAF	#T0101735NAF	—	549.00
DX 11-16/2.8 Pro II (77ø)	#T0111628PCII	#T0111628PNII	\$30	449.00^
DX 11-20/2.8 Pro (82ø)	#T0112028PCDX	#T0112028PNDX	—	599.00
DX 12-28/4.0 Pro (77ø)	#T012284DXC	#T012284DXN	—	449.00
FX 16-28/2.8 Pro	#T01628FXC	#T01628FXN	\$40	589.00^
FX 17-35/4 Pro (82ø)	#T01735F4FXC	#T01735F4FXN	—	449.00

### SIGMA

DC – for Digital SLRs Only DG – Optimized for Digital SLRs DN – Designed for Mirrorless Cameras.

H – HSM Model with Canon, Nikon, Sigma	Mount	SKU #	Rebate	Price
DC 4.5/2.8 EX Circular Fisheye HSM R	C, N, P, SI, SA	#SI4528EX*	—	899.00
DG 8/3.5 EX Circular Fisheye R	C, N, SA	#SI835*	\$50	849.00**
DC 10/2.8 EX Fisheye HSM R	C, N, SA	#SI1028EXDC*	—	649.00
DG 15/2.8 EX Diagonal Fisheye R	C, N, P, SA	#SI1528DG*	—	609.00
DN 19/2.8 (46ø) Black or Silver	MFT, SE	#SI1928DN*	—	199.00
DG 20/1.8 EX DF RF Aspherical (82ø)	C, N, SA	#SI2018*	—	629.00
DG 24/1.8 EX DF Asph. Macro (77ø)	C	#SI2418MCAF	—	549.00
DG 28/1.8 EX DF Asph. Macro (77ø)	C	#SI2818MCAF	—	449.00
DN 30/2.8 (46ø) Black or Silver	MFT, SE	#SI3028DN*	—	199.00
DC 30/1.8 HSM (62ø)	C, N, P, SI, SA	#SI3018HSM*	—	499.00
DG 35/1.4 HSM (67ø)	C, N, P, SI, SA	#SI3514*	—	899.00
DG 50/1.4 EX HSM (77ø) R	C, N, SA	#SI5014*	\$100	399.00**
DG 50/1.4 HSM (77ø) R	C, N, SA	#SI5014A*	—	949.00
DG 50/2.8 EX Macro (55ø)	C, N	#SI5028MDG*	—	369.00
DN 60/2.8 (46ø) Black or Silver	MFT, SE	#SI6028DN*	\$30	209.00**
DG 70/2.8 EX Macro (62ø)	N, P	#SI7028MDG*	—	499.00
DG 85/1.4 EX HSM (77ø)	C, N, P, SI, SA	#SI8514*	—	969.00
DG 105/2.8 EX Macro OS HSM (62ø)	C, N, SI, SA	#SI10528MDG*	\$300	669.00**
DG 150/2.8 EX APO Macro OS HSM (72ø)	C, N, SI, SA	#SI15028AMO*	—	1,099.00
DG 180/2.8 EX APO Macro OS HSM (86ø)	C, N, SI, SA	#SI18028AMEO*	—	1,699.00
DG 300/2.8 APO EX HSM (46ø) Rear	C, N, P, SI, SA	#SI30028DG*	—	3,399.00
DG 500/4.5 APO EX HSM (46ø) Rear	C, N, P, SI, SA	#SI50045DG*	—	4,999.00
DC 8-16/4.5-5.6 HSM	C, N, S	#SI8164556*	—	699.00
DC 10-20/4.5-5.6 EX HSM (77ø)	C, N, P, SI, SA	#SI102045D*	—	479.00

C = Canon MFT = Micro 4/3 N = Nikon O = Olympus P = Pentax SI = Sigma SA = Sony Alpha SE = Sony E

R – Rear Slip-in Gelatin Filter Slot	Mount	SKU #	Rebate	Price
DC 10/20/3.5 EX HSM (82ø)	C, N, P, SI, SA	#SI102035*	\$150	499.00**
DG 12-24/4.5-5.6 EX Asph. HSM II	C, N, SI, SA	#SI122445*	—	949.00
DC 17-50/2.8 EX OS HSM (77ø)	C, N, P, SI	#SI175028*	\$150	519.00**
DC 17-70/2.8-4.0 OS Mac HSM TSC (72ø)	C, N, P, SI, SA	#SI177028A*	—	499.00
DC 18-35/1.8 HSM (72ø)	C, N, P, SI, SA	#SI183518DC*	—	799.00
DC 18-200/3.5-6.3 OS II HSM (72ø)	SI, SA	#SI1820035*	—	299.00
DC 18-200/3.5-6.3 OS Macro HSM (62ø)	C, N, P, SI, SA	#SI1820035D*	—	399.00
DC 18-250/3.5-6.3 OS Macro HSM (62ø)	C, N, P, SI, SA	#SI1825035M*	\$200	349.00**
DC 18-300/3.5-6.3 OS Macro HSM (72ø)	C, N, P, SI, SA	#SI1830035*	—	579.00
DC 24-70/2.8 EX IF HSM (82ø)	C, N, SI, SA	#SI247028*	\$100	799.00**
DC 24-105/4.0 OS HSM (82ø)	C, N, SI, SA	#SI24105*	—	899.00
DG 50-500/4.5-6.3 APO OS HSM (95ø)	C, N, P, SI, SA	#SI505004563*	\$150	1,509.00**
DG 70-200/2.8 EX APO OS HSM (77ø)	C, N, P, SI, SA	#SI7020028*	\$200	1,199.00**
DG 70-300/4-5.6 Macro (58ø)	C, N, P, SI, SA	#SI703004*	—	169.00
DG 70-300/4-5.6 APO Macro (58ø)	C, N, P, SI, SA	#SI703004DG*	—	179.00
DG 120-300/2.8 OS HSM (105ø)	C, N, S	#SI120300*	—	3,599.00
DG 120-400/4.5-5.6 APO OS HSM (77ø) R	C, P, SI	#SI120400*	—	899.00
DG 150-500/5-6.3 APO OS HSM (86ø)	C, N, P, SI, SA	#SI150500*	—	1,069.00
DG 1.4x EX APO Tele-Converter	C, N, S	#SI14XDG*	—	249.00
DG 2x EX APO Tele-Converter	C, N, S	#SI2XDG*	—	299.00

### SIGMA FLASHES

DG EF-610 ST	C, N, P, SI, SA	#SIEF610ST*	\$30	135.00**
DG EF-610 Super Flash	C, N, P, SI, SA	#SIEF610*	\$30	225.00**
DG EM-140 TTL Ringlight	C, N, P, SI, SA	#SIEM140DG*	\$30	349.00**



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## Canon Digital Rebel T6i DSLR

- 3.0" Vari-Angle Touchscreen
- DIGIC 6 Image Processor
- Uses Canon EF Lenses (1.6x factor)
- SDHC/SDXC Card Slot
- Built-In Wi-Fi • Creative Filters
- Full HD 1080p Video Recording
- 5 fps Shooting & Extended ISO to 25600



Rebates Expire 5-30-15	Price	Rebate	Final Cost
Kit with 18-55mm IS STM #CAEDRT6I1855	899.00	\$50	849.99
T6s Kit with 18-135mm IS STM #CAEDRT6SK1	1,199.00	\$50	1,149.00
T5i Kit with 18-55mm IS STM #CAEDRT5IK	799.99	\$150	649.99
T5 Kit with 18-55mm IS II #CAEDRT5K	549.99	\$150	399.99

## Canon EOS-70D DSLR

- Dual Pixel CMOS AF with Live View
- DIGIC 5+ Image Processor
- SD/SDHC/SDXC Card Slot
- Uses Canon EF & EF-S Lenses
- 3.0" Vari-Angle Touchscreen
- 7 fps Continuous Shooting
- Built-In Wireless Connectivity
- Full HD 1080p Video



Rebates Expire 5-30-15	Price	Rebate	Final Cost
Body Only #CAE70D	1,199.00	\$250	949.00
Kit with 18-55mm STM #CAE70D1855	1,349.00	\$300	1,049.00
EOS 60D Body Only #CAE60D			
EOS 60D Kit with 18-135mm IS #CAE60D18135			

## Canon EOS-7D Mark II DSLR

- 3" Clear View II LCD • Native ISO 16000
- Dual Pixel CMOS AF with Live View
- Dual CF and SDHC/XC Card Slots
- Continuous 10 fps Shooting
- Built-In GPS Receiver & Digital Compass
- Full HD 1080p/60 Video & Movie Servo AF



Rebates Expire 5-30-15	Price	Rebate	Final Cost
Body Only #CAE7D2	1,799.00	\$100	1,699.00
EOS 7D Body Only #CAE7D			
EOS 7D Kit with 18-135mm IS #CAE7D18135			
EOS 7D Kit with 28-135mm IS #CAE7D28135			

## Canon EOS-6D DSLR

- Full-Frame CMOS Sensor • 3.0" LCD
- DIGIC 5+ Image Processor
- Uses Canon EF Lenses
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi and GPS Connectivity
- Full HD 1080p with Manual Controls
- Extended ISO Range of 50-102400
- Up to 4.5 Full Resolution FPS
- Built-In HDR & Multiple Exposure Modes



Rebates Expire 5-30-15	Price	Rebate	Final Cost
Body Only #CAE6D	1,699.00	\$300	1,399.00
Kit with 24-105mm f/4L #CAE6D24105	2,299.00	\$300	1,999.00

## Canon EOS-5D Mark III DSLR

- 3.2" Clear View High Resolution LCD
- DIGIC 5+ Image Processor
- 61-Point High Density AF
- Uses Canon EF Lenses
- Dual CF, SD Card Slots
- Full HD 1080/30p & 720/60p Formats
- Extended ISO Range (50-102400)
- Built-In HDR & Multiple Exposure Modes



Rebates Expire 5-30-15	Price	Rebate	Final Cost
Body Only #CAE5D3	2,799.00	\$300	2,499.00
Kit with 24-105mm L IS #CAE5D324105	3,399.00	\$300	3,099.00

## Canon EOS-1Dx DSLR

- Dual DIGIC 5+ Image Processors
- Magnesium Alloy Body
- Eye-Level Pentaprism Viewfinder
- 3.2" LCD Monitor
- Uses Canon EF Lenses
- Dual CF card slots
- 1920 x 1080 HD Video Capture
- Live View Still and Video Recording
- 61-Point High Density Auto Focus



Rebates Expire 5-30-15	Price	Rebate	Final Cost
Body Only #CAE1DX	5,999.00	\$700	5,299.00

## Canon SLR Lenses and Flashes

Rebates Expire 5-30-15 — Call for Current Rebates & Promotions

EOS Flash System	MAP	Rebate	Final
270EX II	169.99	\$30	139.99
320EX			
430EX II	299.99	\$40	259.99
600EX-RT	549.99	\$50	499.95
MR-14EX II Ringlight	549.99	\$50	499.99
MT-24EX Twin Flash	829.99	\$60	769.99



EF-S Digital Lenses	MAP	Rebate	Final
24/2.8 STM (52ø)	149.99		
60/2.8 USM Macro (52ø)	469.99	\$50	419.99
10-18/4.5-5.6 IS STM (67ø)	299.00	\$50	249.00
10-22/3.5-4.5 USM (77ø)	649.99	\$50	599.99
15-85/3.5-5.6 IS USM (72ø)	799.99		
17-55/2.8 IS USM (67ø)	879.99	\$50	829.99
17-85/4-5.6 IS USM (67ø)	CALL		
18-55/3.5-5.6 IS (58ø) II	199.99		
18-135/3.5-5.6 IS (67ø)	499.99		
18-200/3.5-5.6 IS (72ø)	699.99		
55-250/4-5.6 IS USM II (58ø)	249.99		
55-250/4-5.6 IS STM II (58ø)	299.99		



EF Lenses	MAP	Rebate	Final
20/2.8 USM (72ø)	539.99	\$50	489.99
24/2.8 IS USM (58ø)	599.99	\$50	549.99
28/1.8 USM (58ø)	509.99	\$60	449.99
28/2.8 IS USM (58ø)	549.99	\$50	499.99
35/2 IS USM (67ø)	599.99	\$50	549.99
40/2.8 STM Pancake (52ø)	199.99	\$50	149.99
50/1.8 II (52ø)	125.99		
50/2.5 Macro (52ø)	299.99		
50/1.4 USM (58ø)	399.99	\$70	329.99
MP-E 65/2.8 1x-5x Macro (58ø)	1,049.00		
85/1.8 USM (58ø)	419.99	\$70	349.99
100/2 USM (58ø)	499.99	\$50	449.99
100/2.8 USM Macro (58ø)	599.99	\$50	549.99
400/4.0 DO IS II USM (52ø)	6,899.00		
24-105/3.5-5.6 IS STM (77ø)	599.00		
28-135/3.5-5.6 IS USM (72ø)	CALL		
70-300/4-5.6 IS USM (58ø)	649.99		
70-300/4.5-5.6 DO IS USM (58ø)	1,399.00		
75-300/4.0-5.6 IS (58ø)	199.99		
75-300/4.0-5.6 IS USM (58ø)	234.99		



TSE MF Lenses	MAP	Rebate	Final
17/4.0 L	2,149.00		
24/3.5 L II	1,899.00		
45/2.8	1,399.00		
90/2.8	1,399.00		

EF "L" Lenses	MAP	Mail-in Rebate	Final
14/2.8 USM II	2,099.00		
24/1.4 II (77ø)	1,549.00		
35/1.4 USM (72ø)	1,479.00	\$100	1,379.00
50/1.2 USM (72ø)	1,449.00	\$50	1,399.00
85/1.2 USM II (72ø)	1,999.00	\$50	1,949.00
100/2.8 IS USM Macro (67ø)	899.99	\$50	849.00
135/2.0 USM (72ø)	999.00	\$50	949.00
180/3.5 USM Macro (72ø)	1,399.00		
200/2.8 USM II (72ø)	749.00		
200/2.0 IS USM (52ø)	5,699.00		
300/4.0 IS USM (77ø)	1,349.00		
300/2.8 IS USM II (52ø rear)	6,099.00		
400/5.6 USM (77ø)	1,249.00		
400/2.8 IS II (52ø rear)	9,999.00		
500/4 IS USM II (52ø rear)	8,999.00		
600/4.0 IS II (52ø rear)	11,499.00		
8-15/4.0 Fish-eye USM	1,249.00		
11-24/4 USM	2,999.00		
16-35/4 IS USM (77ø)	1,099.00	\$100	999.00
16-35/2.8 USM II (82ø)	1,599.00	\$100	1,499.00
17-40/4.0 USM (77ø)	799.99	\$100	699.00
24-70/4.0 IS USM (77ø)	999.99	\$200	799.00
24-70/2.8 IS USM (82ø)	1,899.00	\$100	1,799.00
24-105/4 IS USM (77ø)	999.99		
28-300/3.5-5.6 IS USM (77ø)	2,449.00		
70-200/4.0 USM (67ø)	649.99		
70-200/4.0 IS USM (77ø)	1,199.00	\$100	1,099.00
70-200/2.8 USM (77ø)	1,349.00		
70-200/2.8 IS II USM (77ø)	2,099.00	\$100	1,999.00
70-300/4.0-5.6 IS USM (67ø)	1,349.00		
100-400/4.5-5.6 IS USM (77ø)	1,699.00		

EF Teleconverters	MAP	Rebate	Final
1.4x III	429.99		
2x III	429.99		

## Nikon D3300 DSLR

Rebates Expire 5-30-15

- EXPEED 4 Image Processor
- Full HD 1080p Video Recording
- 3.0" LCD • 5 fps Shooting
- Uses Nikon AF Lenses (1.5x factor)
- SD/SDHC/SDXC Card Slot
- Expandable ISO 25600
- Easy Panorama Mode and Guide Mode
- Nikon Inc. limited warranty included



D3300 is available in Black, Grey or Red

	Price	Rebate	Final Cost
Kit with 18-55mm VR II #NID33001855*	646.95	<b>\$150</b>	<b>496.95</b>
<b>D3200</b> Kit Black w/18-55mm VR #NID32001855*	529.95	<b>\$80</b>	<b>449.95</b>

## Nikon D5500 DSLR

- EXPEED 4 Image Processor
- Full HD 1080p Video at 60 fps
- 3.2" Vari-Angle Touchscreen
- Uses Nikon AF Lenses (1.5x factor)
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi • ISO 100-25600
- Nikon Inc. limited warranty included



Rebates Expire 5-30-15

D5500 18-55 Kit is available in Black or Red

	Price	Rebate	Final Cost
Kit with 18-55mm VR II #NID55001855*	999.95	<b>\$150</b>	<b>849.95</b>
<b>D5300</b> Kit w/18-55mm VR II #NID53001855*	896.95	<b>\$150</b>	<b>746.95</b>
<b>D5200</b> Kit with 18-55mm VR #NID52001855*	599.95	<b>\$50</b>	<b>549.95</b>

## Nikon D7200 DSLR

- EXPEED 4 Image Processor
- Accepts Nikon AF Lenses (1.5x factor) • 3.2" LCD
- No Optical Low-Pass Filter
- Built-In Wi-Fi with NFC
- Dual SD/SDHC/SDXC Card Slots
- Full HD 1080p Video Recording at 60 fps
- Nikon Inc. limited warranty included



Rebates Expire 5-30-15

	Price	Rebate	Final Cost
Body Only #NID7200.....	1,199.95	—	—
Kit with 18-140mm VR DX #NID720018140.....	1,699.95	<b>\$200</b>	<b>1,499.95</b>
<b>D7100</b> Body Only #NID7100.....	1,199.95	<b>\$300</b>	<b>899.95</b>
<b>D7100</b> Kit w/18-140mm VR DX #NID710018140.....	1,696.95	<b>\$300</b>	<b>1,396.95</b>

## Nikon D750 DSLR

- FX-Format (Full-Frame) CMOS Sensor
- Uses Nikon AF Lenses • 3.2" Tilting LCD
- EXPEED 4 Image Processor
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi Connectivity
- Full HD 1080p Video Recording at 60 fps
- Nikon Inc. limited warranty included



Rebates Expire 5-30-15

	Price	Rebate	Final Cost
Body Only #NID750.....	2,296.95	<b>\$300</b>	<b>1,996.95</b>
Kit with 24-120mm VR #NID75024120.....	3,596.95	<b>\$900</b>	<b>2,696.95</b>
<b>D610</b> Body Only #NID610.....	1,996.95	<b>\$500</b>	<b>1,496.95</b>
<b>D610</b> Kit with 24-85mm VRT #NID6102485.....	2,596.95	<b>\$600</b>	<b>1,996.95</b>

## Nikon D810 DSLR

- FX-Format CMOS Sensor
- EXPEED 4 Image Processor
- Optical Low-Pass Filter • 3.2" LCD
- CF & SD Dual Card Slots
- Nikon F Mount Lens Mount
- Full HD 1080p Video at 60/30/24 fps
- External Mic and Headphone Inputs
- Continuous Shooting to 5 fps in FX Mode
- Nikon Inc. limited warranty included



Rebates Expire 5-30-15

	Price	Rebate	Final Cost
Body Only #NID810.....	3,296.95	<b>\$300</b>	<b>2,996.95</b>
Kit with 24-120mm VR #NID81024120.....	4,599.95	<b>\$900</b>	<b>3,699.95</b>

## Nikon D4s DSLR

- FX-format (full-frame) CMOS Sensor
- 14-Bit RAW Files & 12-Bit RAW S Format
- Full HD 1080p Video at 60 fps
- EXPEED 4 Image Processor
- Compatible with Most Nikkor Optics
- 11 fps Shooting for 200 Shots with AE/AF
- ISO 50-409600 • 3.2" LCD
- CF Type 1 & XQD Compatible
- 1000 Base-T Gigabit Wired LAN Support
- Nikon Inc. limited warranty included



Rebates Expire 5-30-15

	Price	Rebate	Final Cost
Body Only #NID4S.....	6,496.95	<b>\$500</b>	<b>5,996.95</b>

## Nikon SLR Lenses and Flashes

Rebates Expire 5-30-15 — Call for Current Rebates and Promotions

### Nikon Instant Savings on Lenses with purchase of any Nikon DSLR

AF Flashes	Price	Rebate	Final
SB-300.....	146.95		
SB-500.....	246.95		
SB-700.....	326.95		
SB-910.....	546.95		
R1 Wireless Twin Flash.....			
R1C1 Wireless Twin Flash System.....			



DX ED-IF Lenses for Digital Only	Price	Rebate	Final
10.5/2.8 Fish-Eye.....			
35/1.8 G AF-S (52ø).....	196.95		
40/2.8 G AF-S Micro (52ø).....	276.95		
85/3.5 G ED VR Micro.....	526.95	<b>\$100</b>	<b>426.95</b>
10-24/3.5-4.5 G AF-S (77ø).....			
12-24/4 G AF-S (77ø).....			
16-85/3.5-5.6 G AF-S VR (67ø).....			
17-55/2.8 G AF-S (77ø).....			
18-55/3.5-5.6 G AF-S II (52ø).....			
18-55/3.5-5.6 G AF-S VR (52ø).....	196.95		
18-55/3.5-5.6 G AF-S VR II (52ø).....	246.95		
18-105/3.5-5.6 G AF-S VR.....	396.95		
18-140/3.5-5.6 G AF-S VR **.....	496.95	<b>\$200 **</b>	<b>296.95</b>
18-200/3.5-5.6 G AF-S VR II.....	596.95		
18-300/3.5-5.6 G AF-S ED VR (77ø).....	996.95		
18-300/3.5-6.3 G AF-S ED VR (67ø).....	896.95		
55-200/4.5-6.3 G AF-S (52ø).....			
55-200/4.5-6.3 G AF-S VR II.....	346.95	<b>\$250</b>	<b>96.95</b>
55-300/4.5-5.6 G AF-S VR.....	396.95	<b>\$150</b>	<b>246.95</b>



D-Type AF Lenses	Price	Rebate	Final
14/2.8 D ED.....			
16/2.8 D (39ø) with Hood.....			
20/2.8 D (62ø).....			
20/1.8 G AF-S ED (77ø).....	796.95		
24/2.8 D (52ø).....			
24/1.4 G AF-S ED (77ø).....			
24/3.5 D ED PC-E (77ø).....			
28/1.8 G AF-S (67ø).....	696.95		
28/2.8 D (52ø).....			
35/2.0 D (52ø).....			
35/1.4 G AF-S ED (67ø).....			
35/1.8 G AF-S ED (58ø).....	596.95		
45/2.8 D ED PC-E Micro (77ø).....			

D-Type AF Lenses	Price	Rebate	Final
50/1.8 D (52ø).....			
50/1.8 G AF-S (58ø).....	216.95		
50/1.4 D (52ø).....			
50/1.4 G AF-S (58ø).....			
58/1.4 G AF-S (72ø).....	1,696.95		
60/2.8 D Micro (62ø) (1:1).....			
60/2.8 G AF-S ED Micro (62ø).....			
85/1.8 G AF-S (67ø).....	496.95		
85/1.4 G AF-S (77ø).....			
85/2.8 PC-E Micro (77ø).....			
105/2.8 G AF-S ED-IF VR Micro (62ø).....			
105/2.0 DC D with Hood (72ø).....			
180/2.8 D ED-IF (72ø).....			
200/4 D ED-IF Micro with Case (62ø).....			
200/2 G AF-S ED-IF VR II (52ø).....			
300/4.0 D AF-S ED-IF (77ø).....			
300/2.8 G AF-S VR (52ø-R).....			
500/4.0 G AF-S VR ED (52ø).....			
600/4.0 G AF-S VR ED (52ø).....			
14-24/2.8 G AF-S ED-IF.....	1,996.95		
16-35/4.0 G AF-S ED VR (77ø).....	1,256.95		
17-35/2.8 D AF-S ED-IF (77ø).....			
18-35/3.5-4.5 AF-S G ED (77ø).....	746.95		
24-70/2.8 G AF-S ED-IF (77ø).....	1,886.95		
24-85/2.8-4.0 D IF (72ø).....			
24-85/3.5-4.5 G AF-S ED VR.....	596.95	<b>\$100</b>	<b>496.95</b>
24-120/4.0 G AF-S ED VR (77ø).....	1,296.95		
28-300/3.5-5.6 G AF-S ED VR.....	1,046.95	<b>\$250</b>	<b>796.95^</b>
70-200/4.0 G AF-S ED VR (67ø).....	1,396.95		
70-200/2.8 G AF-S ED-IF VR II (77ø).....	2,396.95		
70-300/4.0-5.6 G (62ø).....			
70-300/4.5-5.6 G AF-S VR.....	586.95	<b>\$200</b>	<b>386.95</b>
80-200/2.8 D with Collar (77ø).....			
80-400/4.5-5.6 G AF-S ED VR (77ø).....	2,696.95		
200-400/4 G AF-S ED VR II (52ø).....			
TC-14E III (1.4x) Teleconverter.....	499.95		
TC-17E II (1.7x) Teleconverter.....			
TC-20E III (2x) Teleconverter.....			

\*\* When purchased with a D3300, D5300, D5500, D7100, D7200

^ When Purchased with D7100, D7200, D610, D750, DF, D810, D4s



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## ▶ LENSBABY. SELECTIVE FOCUS LENSES

### Composer Pro with Sweet 50 Optic

The metal swivel ball design and ultra-smooth manual focusing ring delivers steady, fluid control over the focus and tilt making this the perfect choice to create ground breaking creative imagery.



for Canon, Micro 4/3, Nikon,  
Pentax, Samsung & Sony #LELCP50\* ..... **299.95**

### Composer Smooth and Precise

Ideal for tabletop and macro photography. Compress and bend the lens to find your desired Sweet Spot and lock it in place with the push of a button.



for Canon, Nikon, Olympus,  
Pentax, Sony #LELC\* ..... **199.95**

## ▶ ZEISS MANUAL FOCUS LENSES

	Canon ZE		Nikon ZF.2	
15mm f/2.8 Distagon T* (ø)	#ZE1528ZEC	<b>2,950.00</b>	#ZE1528ZF2N	<b>2,950.00</b>
18mm f/3.5 Distagon T* (82ø)	#ZE1835ZEC	<b>1,395.00</b>	#ZE1835ZF2N	<b>1,395.00</b>
21mm f/2.8 Distagon T* (82ø)	#ZE2128ZEC	<b>1,843.00</b>	#ZE2128ZF2N	<b>1,843.00</b>
25mm f/2 Distagon T* (67ø)	#ZE252ZEC	<b>1,699.00</b>	#ZE252ZF2N	<b>1,699.00</b>
28mm f/2 Distagon T* (58ø)	#ZE282ZEC	<b>1,283.00</b>	#ZE282ZF2N	<b>1,283.00</b>
35mm f/1.4 Distagon T* (72ø)	#ZE3514ZEC	<b>1,843.00</b>	#ZE3514ZF2N	<b>1,843.00</b>
35mm f/2 Distagon T* (58ø)	#ZE352ZEC	<b>1,117.00</b>	#ZE352ZF2N	<b>1,117.00</b>
50mm f/1.4 Planar T* (58ø)	#ZE5014ZEC	<b>725.00</b>	#ZE5014ZF2N	<b>725.00</b>
50mm f/2 Makro-Planar T* (67ø)	#ZE502ZEC	<b>1,283.00</b>	#ZE502ZF2N	<b>1,283.00</b>
85mm f/1.4 Planar T* (72ø)	#ZE8514ZEC	<b>1,283.00</b>	#ZE8514ZF2N	<b>1,283.00</b>
100mm f/2 Makro-Planar T* (67ø)	#ZE1002ZEC	<b>1,843.00</b>	#ZE1002ZF2N	<b>1,843.00</b>

## ▶ MANUAL FOCUS LENSES

**NOTE:** These lenses are compatible with autofocus cameras, but ONLY in manual-focus mode.

	C = Canon EOS	N = Nikon	O = Olympus OM	P = Pentax K	SM = Sony/Minolta			
	Available for	BOWER	Vivitar			Price	ROKONIN	Price
8mm f/3.5 Fisheye	C, N, P, SM	#B0835S*	—			239.99	#ROFE8M*	269.95
14mm f/2.8 WA	C, N, P, SM	#B014*	—			349.99	#ROFE14M*	349.00
24mm f/1.4 WA (77ø)	C, N, P, SM	#B02414*	—			499.95	#RORK24M*	599.00
35mm f/1.4 (77ø)	C, N, P, SM	#B03514*	—			379.99	#RORK35M	499.00
85mm f/1.4 (72ø)	C, N, P, SM	#B08514*	#V18514*			269.99	#R085M*	299.00
500mm f/8 Mirror w/Mount	C, N, P, SM	#B05008K*	#V15008*			118.95	#R05008*	108.50
500mm f/6.3 Mirror w/Mount	C, N, O, P, SM	#B050063*	#V150063*			152.95	#R050063*	129.95
800mm f/8 Mirror w/Mount	C, N, O, P, SM	#B08008K*	#V18008*			249.95	#R08008*	188.50
650-1300mm f/8-16 w/Mount	C, N, O, P, SM	#B06501300*	—			264.95	#R06501300*	247.95

## ▶ LENS COVERS

- Available with a custom fit for most popular lenses
- Clear, flexible window over the AF/IS/VR controls and the distance-scale window.
- Custom holes that reveal the red-dot for easy alignment to the camera body without removing the cover.
- Available in Black, Digital Camo, Forest Green Camo, Realtree Max4 HD, Hardwoods Snow or white for Canon lenses



## ▶ HOODIE LENS CAPS

The neoprene Hoodie features a reinforced removable front element protection disc made from rigid plastic and firm foam to protect your lens from dirt, dust, moisture, and impact.

\*\* Specify type of camouflage: Digital Camo, Forest Green, Realtree Max4 HD, or Hardwoods Snow



Size	SKU #	Black	Camo**
Medium	#LELCHM*	<b>13.99</b>	<b>18.99</b>
Large	#LELCHL*	<b>13.99</b>	<b>18.99</b>
X-Large	#LELCHXL*	<b>14.99</b>	<b>19.99</b>
2XL	#LELCH2XL*	<b>15.99</b>	<b>20.99</b>
3XL	#LELCH3XL*	<b>17.99</b>	<b>22.99</b>
4XL	#LELCH4XL*	<b>24.99</b>	<b>29.99</b>

## ▶ FLASHES



### Shoe-Mount Flashes

24 AF-1 Digital .....	<b>89.99</b>
28 CS-2 Digital Slave Flash .....	<b>139.99</b>
36 AF-5 Digital .....	<b>129.99</b>
44 AF-1 Digital .....	<b>199.99</b>
52 AF-1 TTL Touchscreen .....	<b>300.00</b>
58 AF-2 TTL Digital .....	<b>399.99</b>
64 AF-1 Digital .....	<b>449.99</b>

### Handle-Mount Flash Systems

45 CL-4 TTL Digital .....	<b>519.99</b>
76 MZ-5 TTL Digital .....	<b>1,039.99</b>



Q-flash TRIO .....	<b>875.00</b>
Q-flash T5D-R .....	<b>706.00</b>
Q-flash T5D-R with Turbo SC Battery & Charger ...	<b>1,057.00</b>
Q-flash T5D-R with Turbo 3 Battery Kit .....	<b>1,330.00</b>

### Batteries

Battery 1 .....	<b>224.00</b>
Turbo SC - Slim Compact .....	<b>351.00</b>
Turbo Blade .....	<b>466.00</b>
Turbo 3 .....	<b>624.00</b>



### Shoe-Mount AF Flashes

PF20XD Digital Slave .....	<b>49.95</b>
RD-2000 .....	<b>52.19</b>
DF3000 Digital for Canon, Nikon, Sony .....	<b>69.95</b>
PZ-4000 AF TTL .....	<b>89.95</b>
PZ-40x II AF TTL for Nikon (Silver) .....	<b>89.95</b>
PZ-42x AF TTL for Canon or Nikon .....	<b>139.00</b>

### Handle-Mount Flashes

622 Super Pro TTL .....	<b>179.95</b>
-------------------------	---------------



285HV Professional Auto .....	<b>84.95</b>
Pearstone SB-4 AC Adapter for 285HV #PESB4 .....	<b>14.95</b>

## ▶ METERS



DigiFlash 2 .....	<b>215.99</b>
Starlite 2 .....	<b>744.99</b>
Digi Pro F2 .....	<b>324.99</b>
DigiSky .....	<b>510.88</b>



KFM-1100 Auto Meter .....	<b>249.00</b>
KFM-2200 Cine & Flash Meter .....	<b>559.90</b>



Polaris Digital Exposure .....	<b>189.95</b>
Polaris Dual 5 .....	<b>294.99</b>



3 year warranty

L208 Twin Mate .....	<b>126.00</b>
L308DC Digidigimetre .....	<b>279.00</b>
L308S Flashmate .....	<b>199.00</b>
L478D Lifemaster Pro .....	<b>339.00</b>
L758DR Digital Flashmaster .....	<b>634.00</b>
C500 Prodigy Color .....	<b>1,216.00</b>
C500 Prodigy with Module .....	<b>1,338.00</b>

### 58 AF-2 TTL Shoe-Mount Flash

- Guide No. 58'
- Full TTL Mode
- Zoom Head (24-105)
- Bounce Head
- Swivel Head
- Update via USB Port
- Secondary Reflector with 3 Output Ratios
- Weight: 12.8 oz



### PZ-42x AF TTL Shoe-Mount Flash

- Guide No. 138'
- Bounce and Swivel Head
- Automatic Shutdown Mode
- Large Illuminated LCD panel
- AF Assist Light
- Weight: 9.1 oz



### 285HV Professional Auto Shoe-Mount Flash

- Guide No. 120'
- Automatic exposure range to 70'
- 4 auto f/stop settings
- Bounce Head
- Zoom Head (28-105)



### Qflash TRIO Parabolic Reflector Flash

- Radio Wireless TTL
- Bounce & Swivel Head
- Guide No. 110'
- Built-In FreeWire
- High-Speed Sync
- TTL compatible



### Turbo Blade Battery Pack with Charger

- Shoe Mount Recycling: 1/10-1.5 sec
- Less Than 15 Ounces
- 1/4"-20 Top/Bottom Mounts
- 1.5 Hour Recharging
- Blade-thin: Only 1.44" Height



### L-358 Flash Master Digital Incident, Reflected & Flash Lightmeter

- Weatherproof
- Built-in adjustable incident dome
- Rotating 270° Receptor Head
- Weight: 5.4 oz



### Portable Flash Accessories

#### Universal Softbox

- Softens and Diffuses Light



Small #VEFD300  
Medium #VEFD310  
Large #VEFD320

#### Light Bouncers

- Fits Nearly Any Portable Flash



Basic #VEFD200  
Plus #VEFD210

#### Snoot/Reflectors

- Use As a Snoot or Reflector

5" #VEFD400  
8" #VEFD410



#### Honeycomb Grids

- Tightens Light Beam



1/8" #VEFD600  
1/4" #VEFD610

## Canon Powershot S120

- 5x Optical Zoom • 4x Digital Zoom
- 5.2-26mm f/1.8-5.7 (35mm equiv: 24-120mm) • 3.0" Touchscreen LCD
- SD/SDHC/SDXC Card Slot
- Full HD 1080/60p Video • ISO 12800
- Enhanced Wi-Fi Capabilities

#CAPSS120B\* ..... 449.99 ..... **Less \$100 Rebate..... 349.99**



Expires 5-30-15

12 Mega Pixels

## Canon Powershot SX60 HS

- 65x Optical Zoom Lens • Built-In Wi-Fi
- 21-1,365mm (35mm Equivalent)
- 3.0" Vari-Angle LCD
- SD/SDHC/SDXC Card Slot
- Full HD 60p Video & External Mic Input
- High Speed AF System & RAW Image Capture

#CAPSSX60HSB ..... 549.99 ..... **Less \$70 Rebate.... 479.99**



Expires 5-30-15

16 Mega Pixels

## Canon Powershot G16

- 3.0" LCD • Full HD 1080/60p Video
- 5x Optical Zoom • 4x Digital Zoom
- 6.1-30.5mm f/1.8-2.8 (35mm equiv: 28-140mm) • SD/SDHC/SDXC Card Slot
- Enhanced Wi-Fi Capabilities
- Continuous Shooting at 9.3 fps

#CAPSG16 ..... 499.99 ..... **Less \$100 Rebate... 399.99**



Expires 5-30-15

12 Mega Pixels

## Nikon Coolpix L840

- 3.0" Tilting LCD • Built-In Wi-Fi
- SD/SDHC/SDXC Card Slot
- Full HD 1080p Video at up to 30 fps
- 4-152mm f/3-6.5 Nikkor 38x Zoom VR Lens
- 22.5-855mm (35mm Equivalent)
- 76x Dynamic Fine Zoom Function

Black or Red #NICPL840\* ..... 299.99 ..... **Less \$50 Rebate.... 249.99**



Expires 5-30-15

16 Mega Pixels

## Nikon Coolpix P610

- 3.0" Vari-Angle LCD • Built-In GPS & Wi-Fi
- 4.3-258mm Nikkor 60x Zoom ED VR Lens
- 24-1440mm (35mm Equivalent)
- 120x Dynamic Fine Zoom Function
- SD/SDHC/SDXC Card Slot
- Full HD 1080p Video at up to 60 fps

Black or Red #NICPP610\* ..... 499.99 ..... **Less \$50 Rebate.... 449.99**



Expires 5-30-15

16 Mega Pixels

## FUJIFILM X30

- 2.8" LCD • Die-Cast Magnesium Alloy
- Full HD 1080 Video at 60fps
- 4x Optical Zoom • ISO 100-12800
- 7.1-28.4mm f/2-2.8 (35mm equiv: 28-112mm) • SD/SDHC/SDXC Card Slot
- Film Simulation and Advanced Filters

Black or Silver #FUX30\*



12 Mega Pixels

## OLYMPUS Stylus Tough TG-860

- Waterproof to 50' • Crushproof to 220 lb
- Shockproof to 7' • Coldproof to 14°F
- 5x Optical Zoom f/3.5-5.7 Lens
- 3.0" 180° Flip LCD • Built-In Wi-Fi
- SDHC/SDXC Card Slot
- Full HD 1080 Video at 60 fps

Black, Orange or White #OLSTG860\*



16 Mega Pixels

## Panasonic Lumix DMC-FZ70

- 3.0" LCD • SD/SDHC/SDXC Card Slot
- Full HD 1080i AVCHD Video at 60 fps
- 60x Optical Zoom • 5x Digital Zoom
- 3.58-215mm f/2.8-5.9 (35mm equiv: 20-1200mm) DC Vario Lens
- Creative Controls, Panorama, and Retouch

#PADMCFZ70B\*



16 Mega Pixels

## Panasonic Lumix DMC-LX100

- 4K Ultra HD Video at 30/24 fps in MP4
- Full HD Video at 60fps in MP4 or AVCHD
- 3.0" LCD • SDHC/SDXC Card Slot
- Full HD 1080 Video Recording
- Leica DC Vario-Summilux f/1.7-2.8 Lens
- Built-in Wi-Fi • External Flash Included

Black or Silver #PADMCLX100\*



12 Mega Pixels

## SONY CyberShot DSC-HX50V

- 3.0" Xtra Fine LCD
- Full HD 1080/60p AVCHD Video Capture
- 30x Optical Zoom • 60x Digital Zoom
- 4.3-129mm f/3.5-6.3 (35mm equiv: 24-720mm) Lens
- SD/SDHC Card Slot
- Built-in Wi-Fi and GPS

#SODSCHX50VB



20 Mega Pixels

## SONY CyberShot DSC-RX100 III

- 3.0" Multi-Angle Xtra Fine LCD
- 2.9x Optical Zoom • 11x Digital Zoom
- 8.8-25.7mm f/1.8-2.8 (35mm equiv: 24-70mm) Carl Zeiss Vario-Sonnar T\* Lens
- MS Pro Duo/Pro HG-Duo, SDHC/SDXC Card Slot
- Full HD Video • Built-In Wi-Fi with NFC

#SODSCRX100M3



20 Mega Pixels

## SONY Cyber-shot DSC-RX10

- Built-In Wireless and NFC Connectivity
- 8.8-73.3mm f/2.8 (35mm equiv: 24-200mm) Carl Zeiss • 3.0" Tilting LCD
- Full HD 1080i/p Video at 60 and 24 fps
- MS Duo/Micro, microSDHC Card Slots
- Super Sonicwave Motor for Fast Autofocus

#SODSCRX10B



20 Mega Pixels

## MEMORY CARDS

### CF Compact Flash

	Delkin				Kingston		Lexar		Sandisk		
	500x	700x	1000x	1050x	Ultimate 266x	Ultimate 600x	800x	1066x	Ultra 50MBs	Extreme 120MBs	Extreme Pro 160MBs
16GB	29.95	34.95	49.95	—	18.99	28.95	38.80	48.95	20.95	37.95	49.95
32GB	42.95	49.95	64.95	79.95	28.95	44.95	51.97	78.45	32.95	49.95	65.99
64GB	84.50	72.50	99.95	159.95	49.95	—	72.95	124.00	—	74.95	129.95
128GB	—	184.95	214.00	254.95	—	—	181.14	269.95	—	164.99	249.95
256GB	—	—	—	—	—	—	399.95	543.91	—	—	529.99
512GB	—	—	—	—	—	—	879.99	—	—	—	—

### CFast 2.0 High Speed

High-speed file transfer to meet the demands of broadcast, cinema, and photography.

### SANDISK Extreme Pro 515mb/s

128GB ..... 499.95

### LEXAR 3400x 510mb/s

32GB ..... 173.55 128GB ..... 640.79  
64GB ..... 327.12 256GB ..... 964.90

### XQD High-Speed for Nikon D4

	Lexar Professional 1333x	Sony N Series 125MBs	G Series 400MBs
32GB	92.79	99.95	163.50
64GB	137.02	189.95	359.95

### SDHC Secure Digital High Capacity

	Delkin Pro Class10	Kingston Micro Class 10 Mobility	Sandisk Standard Class 4	Sandisk Micro Class 4
4GB	7.95	—	4.95	4.95
8GB	9.95	7.95	5.95	5.95
16GB	10.95	9.95	8.95	8.95
32GB	16.95	17.95	15.95	16.95

### UHS1 Ultra High Speed

		Lexar		Sandisk		Sony		Delkin		Kingston		Lexar		Sandisk		Sony		Delkin		Lexar		Sandisk		Sony	
		Platinum 300x	Micro 633x	Extreme 600MBs	800MBs	Class 10 94MBs	Micro	633x	90MBs	633x 95MBs		Extreme 60MBs	Extreme Pro 95MBs	Micro	95MBs		U3 280MBs	1000x 150MBs	1000x Micro	2000x 300MBs	Extreme Pro 280MBs				
SDXC	8GB	7.95	—	19.15	—	11.66	7.75	17.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	16GB	10.95	23.95	24.95	24.95	17.95	8.99	31.95	21.46	—	—	14.65	—	—	—	—	64.95	18.30	—	—	—	—	—		
	32GB	18.95	34.95	37.95	34.95	24.95	14.95	35.95	28.95	20.29	22.95	36.95	36.95	39.95	39.95	114.95	28.95	46.79*	68.95*	—	—	—	—		
	64GB	32.03	66.50	64.95	61.95	39.95	32.95	74.95	49.95	37.37	44.95	59.99	59.99	69.95	—	—	44.95	84.95*	116.95*	—	—	—	—		
	128GB	56.95	—	137.95	—	76.00	—	149.95	—	69.41	—	109.95	—	—	—	—	87.95	148.19*	—	—	—	—	—		
	256GB	—	—	—	—	—	—	359.95	—	128.15	—	227.95	—	—	—	—	168.50	—	—	—	—	—	—		
512GB	Note: Not all devices support SDXC cards										—	—	499.95	—	—	—	* with USH-II Reader								





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# impact™

## lighting equipment and accessories

### Parabox Speedlight Kit

**Kit Includes:**

- 24x36" Parabox Softbox
- Umbrella Bracket with Adjustable Shoe
- Adjustable Locking Triple Flash Adapter
- 10' Air-Cushioned Light Stand

#IMPBSB2436K ..... \$218.84

### Astral Extreme 2-Light Portrait Kit

**Kit Includes:**

- 2 x Astral Extreme AS-X-400 Monolight
- 10' Air-Cushioned Light Stand
- Speed Ring
- Luxbanx Small 36"
- Octagonal Softbox
- Fabric Grid 36" for Luxbanx
- Convertible 45" Umbrella - White Satin with Removable Black Backing

#IMASX4002LK ..... \$1,219.58

# Oben™

## You're On Steady Ground

**Tripods with Ball Head**

- Detachable Leg and Column Form Monopod
- Non-Rotating Twist-Lock Legs
- Grooved center column
- Bubble Level/s
- Rubber Feet & Retractable Metal Spikes
- Included padded carry bag

Model	Ball Head	Load Capacity	Max. Height	Folded	Weight	SKU #	Price
<b>Anodized Aluminum Tripods</b>							
AT-3421	BA-106T	6.6 lb	59"	16.8"	2.7 lb	#OBAT3421106T	\$159.95
AT-3431	BA-108T	8.8 lb	61.3"	17.3"	2.8 lb	#OBAT3431108T	\$199.95
AT-3441	BA-111T	11 lb	63.4"	17.5"	3.5 lb	#OBAT3441111T	\$249.95
AT-3451	BA-113T	13.2 lb	65.5"	18.1"	3.6 lb	#OBAT3451113T	\$289.95
AT-3461	BA-117T	17.6 lb	67.1"	18.9"	4.5 lb	#OBAT3461117T	\$299.95
<b>6x Carbon Fiber Tripods</b>							
CT-3431	BE-108T	8.8 lb	59.5"	17"	2.5 lb	#OBCT3431108T	\$269.95
CT-3451	BE-113T	13.2 lb	61.3"	17.1"	2.5 lb	#OBCT3451113T	\$289.95
CT-3461	BE-117T	17.6 lb	64.5"	17.4"	3.1 lb	#OBCT3461117T	\$349.95
CT-3481	BE-126T	26.4 lb	68"	18.9"	3.8 lb	#OBCT3481126T	\$369.95
CT-3521	BE-106T	6.6 lb	56.4"	14.8"	2.4 lb	#OBCT3521106T	\$259.95
CT-3531	BE-108T	8.8 lb	60.8"	15.5"	2.5 lb	#OBCT3531108T	\$279.95
CT-3551	BE-113T	13.2 lb	62.4"	16"	2.6 lb	#OBCT3551113T	\$299.95
CT-3561	BE-117T	17.6 lb	64.3"	16.8"	3.1 lb	#OBCT3561117T	\$359.95
CT-3581	BE-126T	26.4 lb	67.9"	16.9"	3.9 lb	#OBCT3581126T	\$379.95

# VELLO™

## BATTERY GRIPS

- Accepts 2 lithium-ion batteries to effectively double the camera's battery life (Batteries not included)
- The included AA battery holder allows you to use 6 AA batteries for added convenience (except BG-N3)
- Alternate shutter release button, main and sub command dials, and an AE-L/AF-L button are provided to facilitate shooting in a vertical orientation

for Canon 5D Mark III .....	BG-C9	#VEBGC9.....	\$99.95
for Canon 5D Mark II .....	BG-C2	#VEBGC22.....	\$69.95
for Canon 7D.....	BG-C4	#VEBGC4.....	\$64.95
for Canon 70D .....	BG-C10	#VEBGC10.....	\$84.95
for Canon 60D .....	BG-C6	#VEBGC6.....	\$69.95
for Canon T5i, T4i, T3i, T2i .....	BG-C5.2	#VEBGC52.....	\$67.95
for Nikon D7100.....	BG-N11	#VEBGN11.....	\$89.95
for Nikon D5300.....	BG-N13	#VEBGN13.....	\$59.95
for Nikon D3300, D3200.....	BG-N12	#VEBGN12.....	\$59.95
for Nikon D600, D610 .....	BG-N10	#VEBGN10.....	\$79.95
for Nikon D800, D800E .....	BG-N7	#VEBGN7.....	\$89.95

PHOTOGRAPHY ACCESSORIES

## FILTERS

### HOYA

**B&H SPECIAL! Buy 3 or more Hoya Filters & Get 10% Off**

	52mm	58mm	67mm	72mm	77mm
UV, Skylight (1B) HMC	16.50	21.50	27.50	29.95	36.20
UV, Skylight (1B) Super HMC	27.89	26.49	33.00	52.95	44.99
Linear Polarizer	16.99	25.00	38.85	36.85	44.90
Circular Polarizer	23.95	29.95	34.95	42.95	38.90
Circular Polarizer HMC	39.95	49.00	55.90	69.00	104.90
"Moose" Warm Circular Polarizer	35.75	39.55	53.90	55.65	91.50
K2 Yel, X0 Yel/Gm, Gm X1, Or G, Red 25A HMC	23.95	28.35	41.95	46.35	60.90
Close-Up Set (+1, +2, +4)	39.99	47.35	53.00	63.00	68.00
Close-Up Set HMC (+1, +2, +4)	52.68	64.88	73.00	100.68	145.35
Intensifier - Blue, Green Field, Enhancement (Red)	34.68	39.95	55.08	60.00	71.50
Neutral Density 2x, 4x, 8x HMC	23.88	19.95	36.95	30.99	34.80
Star 8, Star 8	16.89	22.50	43.35	49.90	46.68

Filter Stack Caps 49mm	10.95	52mm	10.95	55mm	10.95	58mm	14.95
Filter Stack Caps 62mm	12.95	67mm	12.95	72mm	13.95	77mm	16.95
Filter Wrenches Set of 2 for 48-58mm Filters #GBFW4858							4.95
Filter Wrenches Set of 2 for 62-82mm Filters #GBFW6277							4.95

### B+W

**B&H SPECIAL! Buy 3 or more B+W Filters & Get 5% Off**

	55mm	58mm	62mm	67mm	72mm	77mm
UV Haze SC	18.50	24.95	28.99	31.95	34.00	39.99
UV Haze MRC 010M	35.50	31.50	36.30	42.90	49.89	71.75
Circular Polarizer SC	83.95	85.95	83.50	80.00	73.95	99.00
Circular Polarizer MRC	78.00	87.53	82.50	109.99	89.99	119.99
Circular Polarizer Slim	56.95	49.99	68.00	69.99	59.99	80.00
Skylight KR1.5 (1A)	24.50	25.95	31.95	38.95	42.00	53.95
Digital Pro UV MC	41.95	41.95	44.00	—	—	—
Graduated (N.D. & Colors)	99.95	106.95	99.50	109.50	142.50	152.95
Neutral Density 106	56.00	60.95	97.95	105.95	121.95	137.95
Close-Up Lenses 1, 2, 3, 4, 5	25.95	25.95	31.95	38.95	45.95	53.95

## FILM - B&W AND COLOR

### COLOR PRINT

FUJIFILM	Kodak
Superia	Ektar
CA 200 135-24.....2.99	100 135-36.....7.99
CH 400 135-24.....3.79	100 120 Roll.....5.59
CH 400 135-36.....3.99	Portra
CZ 800 135-24.....3.99	160 135-36.....7.99
Pro	160 120 Roll.....6.39
400H 135-36.....10.29	160 220 Roll.....14.59
400H 120 Roll.....7.55	160 220 PP (5).....72.95
Kodak	400 135-36.....8.59
Gold Max	400 120 Roll.....6.99
GC 400 135-24.....2.09	400 220 Roll.....14.95
GC 400 135-36.....3.29	400 220 PP (5).....74.75
	800 135-36.....10.99
	800 120 Roll.....11.39

### COLOR SLIDE

FUJIFILM	Velvia RVP
Provia	
RDP 100F 135-36.....9.95	Pro 50 135-36.....11.69
135-36PP (5).....49.75	Pro 50 120 Roll.....8.55
RDP 100F 120 Roll.....7.19	100 135-36.....10.64
135-36PP (5).....35.95	

### PROCESSING MAILERS

FUJIFILM	Slide	Print C41 35mm.....13.49
36 Exposures		Print C41 120 Roll.....15.49
(35mm).....10.59		Print C41 220 Roll.....30.95

### BLACK & WHITE PRINT

ILFORD	Infrared
Pan F+ 50 135-36.....6.50	SFX 200 135-36.....7.99
Pan F+ 50 120 Roll.....4.95	SFX 200 120 Roll.....7.49
FP4+ 125 135-36.....4.99	FUJIFILM
FP4+ 125 120 Roll.....4.39	Acros 100 135-36.....5.89
HP5+ 400 135-36.....4.75	Acros 100 120 Roll.....5.09
HP5+ 400 120 Roll.....4.09	Kodak
Delta Pro	Tri-X 400 135-36.....5.99
100 135-36.....6.25	Tri-X 400 120 Roll.....4.85
100 120 Roll.....4.50	TMX 100 135-36.....5.95
400 135-36.....6.29	TMX 100 120 Roll.....5.19
400 120 Roll.....4.95	TMY 400 135-36.....6.39
3200 135-36.....8.99	TMY 400 120 Roll.....5.39
3200 120 Roll.....5.99	BW 400CN 135-36.....8.89
XP-2 Super	
400 135-36.....6.49	
400 120 Roll.....4.75	

## LIGHTING

### Background System

Stands
Economy.....74.95
Port-A-Stand.....114.95*
Multi 3
Polevault.....217.99
* FREE! Roll of White Paper w/Purchase
Paper
Available in 48 Colors
53" x 12 yds.....24.95
107" x 12 yds with Core.....45.95

### impact.

#### Panel Frame Reflector Kits

- Reversible 2-Sided Fabric
- Collapsible Aluminum Alloy Frame
- Padded Shoulder Bag

43 x 67" #IMFPK436ZGS.....299.95
59 x 82" #IMFPK598ZGS.....464.95

### impact.

#### Octacool Light Kit

with 29.5" Octobox

- Octacool 6 or 9 Lamp Fixture
- Removable Aluminum Reflector
- 28w Lamps
- Internal Diffusion Baffle

Octacool-6 #IMOC6SB.....199.95
Octacool-9 #IMOC9SB.....259.00

### impact.

#### PowerSync16-80 Transceiver

- 80-Channel Wireless Control
- Range: up to 720'
- 4 Individual Groups
- Sync Up to 1/250s
- Hands-Free Shutter Release Function

#IMPS80.....164.95
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### impact.

#### Luxbanx Duo

Medium Strip Softbox

- For Strobe, LED, Fluorescent Lights
- Also Compatible with Quartz Lights
- Maximum Quartz Wattage: 1,000W
- Heat-Resistant Textured Silver Interior
- Removable Inner Baffle, Front Diffuser
- Fits Speed Rings for Most Popular Brands
- Optional Fabric Grids

16x55" #IMLBSTDM.....249.95
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### impact.

#### Luxbanx

Large Octagonal Softbox

- White Interior
- Spare Rod
- Removable, Recessed Front Diffuser
- Removable Inner Baffle
- For Use with Strobe Only
- Fits Speed Rings for Most Popular Brands
- Optional Fabric Grids

84" #IMLBOL.....419.95
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### impact.

#### QuikBalance

Tri-Fold Panel

- Accurate Color Balance & Exposure
- 18% Gray, Neutral White, Neutral Black
- Focus Targets
- Folds to 1/3 Full Size
- Zippered Storage Sleeve Included

12x36" #IMQBPTF12.....74.75
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### impact.

#### VS-LCD400

Digital Monolight

- Power is variable over a 4-stop range
- Power is adjustable in 1/10 stop increments, from full to 1/8 power
- Digital readout coupled with the power variator
- Limited Auto Dump feature
- Built-in optical slave

400ws #IMVSLCD400.....327.75
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## Economy Background Kits with Wrinkle-Resistant Background



- 5'x9' polyester background
- Wrinkle-resistant material
- Glare-free, matte finish
- Sewn-in rod pocket
- Machine washable
- Background stand



## 4 Kit Options!



5'x9' Black Background + Stand  
59-9920 \$79.95



5'x9' Grey Background + Stand  
59-9912 \$79.95



5'x9' White Background + Stand  
59-9901 \$79.95



5'x9' Green Background + Stand  
59-9946 \$79.95

## 14 Individual Background Color Options



## Floor Drops - Realistic Backgrounds for the Floor or Wall

Floor Drops are amazingly lifelike, detailed, and realistic studio backgrounds for the floor. Easily create the look and feel of location shots in the studio. Floor Drops are printed on quality polyester, with a heavy-duty 1.5mm non-slip rubber back.



1.5mm thick, non-slip rubber backing



Roll up for easy transport & storage



Use as a floordrop or as a backdrop

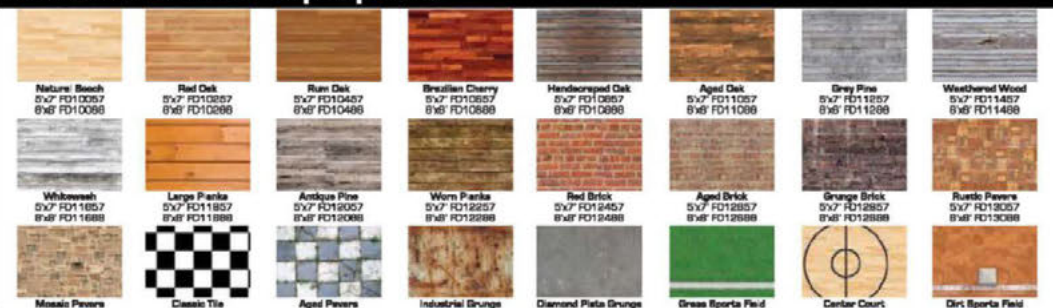


Available in 5'x7' or 8'x8' to fit any studio



Very realistic polyester printed surface

## 24 Realistic Floor Drop Options





## Collapsible Backgrounds starting at \$149



### Reversible

Royal Tone CB100	Lakeside CB102	Moonson CB104
Indigo Nights CB106	Spring Essence CB108	Earth Tone CB110
Black/White CB112	Dark/Light Gray CB114	Green/Blue CB104 Chrome

### Retro

Antique Blk RCB200	Red RCB202
Blk/White RCB204	Blue RCB206
Green RCB208	Purple RCB210

Portable, compact, and simple to set up and take down, Savage Collapsible Backgrounds are an ideal choice for photographers looking for a versatile backdrop that easily makes the transition from studio to location.

- Sized to 5'x6' & collapses to just 26"
- Carry bag included for easy transport
- Perfect for on-location photography

## Kits

Royal Tone	CB100-KIT
Lakeside	CB102-KIT
Moonson	CB104-KIT
Indigo Nights	CB106-KIT
Spring Essence	CB108-KIT
Earth Tone	CB110-KIT
Blk/White	CB112-KIT
Dark/Light Gray	CB114-KIT
Green/Blue	CB104-KIT
Antique Black	RCB200-KIT
Retro Red	RCB202-KIT
Retro Blk/White	RCB204-KIT
Retro Blue	RCB206-KIT
Retro Green	RCB208-KIT
Retro Purple	RCB210-KIT

All collapsible kits include a 5'x6' background, carry bag and 8' aluminum stand.

## Muslin & Fabric Backgrounds starting at \$55



### Crushed Muslin

Sedona Red 10x12' CMO112	Sky Blue 10x12' WDS612	Red 10x12' RET0112	Venus 10x10' 406004-1010	White 10x12' SDO112
10x24' CMO124	10x24' WDS624	10x12' RET0112	10x20' 406004-1020	10x24' SDO124
Blue Winter 10x12' CMO212	Light Gray 10x12' WDS112	Pink 10x12' RET0113	Verona 10x10' 406018-1010	Black 10x12' SDO212
10x24' CMO224	10x24' WDS124	10x12' RET0113	10x20' 406018-1020	10x24' SDO224
Mocha Biscuit 10x12' CMO312	Forest Green 10x12' WDS212	Baby Blue 10x12' RET0114	Petra 10x10' 406010-1010	Gray 10x12' SDO1212
10x24' CMO324	10x24' WDS224	10x12' RET0114	10x20' 406010-1020	10x24' SDO1224
Gray Blues 10x12' CMO412	Brown 10x12' WDS312	Antique Brown 10x12' RET0115	Olympia 10x10' 406004-1010	Chroma Green 10x12' SDO412
10x24' CMO424	10x24' WDS324	10x12' RET0115	10x20' 406004-1020	10x24' SDO424
Autumn Brown 10x12' CMO512	Cranberry 10x12' WDS412	Antique Black 10x12' RET0116	Milano 10x10' 406030-1010	
10x24' CMO524	10x24' WDS424	10x12' RET0116	10x20' 406030-1020	
Aqua Blue 10x12' CMO612	Dark Gray 10x12' WDS512	Black Cream 10x12' RET0117	Donna 10x10' 406024-1010	
10x24' CMO624	10x24' WDS524	10x12' RET0117	10x20' 406024-1020	

## Kits

10'x20' Muslin Backdrops	
Venus	62037-2820
Verona	62037-1820
Petra	62037-1020
Olympia	62037-0420
Milano	62037-3020
Bogata	62037-2420
10'x12' Solid Backdrops	
White	01PAS-12
Black	20PAS-12
Green	46PAS-12
Gray	19PAS-12
Blk/White	0120PAS-12
Blk/White/Gray	01120PAS-12
Blk/White/Green	012046PAS-12

All muslin kits include a 10'x10' or 10'x12' background(s), and 10'x8' wide x 8'10" high, portable Port-a-Stand.

## Vinyl Backgrounds starting at \$87



Pure White 5x7' V01-0507	Matte Black 5x7' V20-0507	Chroma Green 5x7' V46-0507	Photo Gray 5x7' V70-0507
8x10' V01-0810	8x10' V20-0810	8x10' V46-0810	8x10' V70-0810
8x20' V01-0820	8x20' V20-0820	8x20' V46-0820	8x20' V70-0820
9x10' V01-0910	9x10' V20-0910	9x10' V46-0910	9x10' V70-0910
9x20' V01-0920	9x20' V20-0920	9x20' V46-0920	9x20' V70-0920
10x10' V01-1010	10x10' V20-1010	10x10' V46-1010	10x10' V70-1010
10x20' V01-1020	10x20' V20-1020	10x20' V46-1020	10x20' V70-1020

Savage Vinyl Backgrounds provide an ultra-smooth background and have a unique matte finish that eliminates glare. Vinyl stands up extremely well to wear, resists scuffs and is very easy to clean.

- Durable glare-free, matte finish material
- Moisture-resistant, easily cleaned finish
- Sturdy core prevents wrinkles and sagging

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Black Vinyl Kit	62037-2012
Green Vinyl Kit	62037-4612
Gray Vinyl Kit	62037-7012

All vinyl kits include a 5'x12' vinyl background, and 10'x8' wide x 8'10" high, portable Port-a-Stand.

## Green Screen Photo & Video Kits starting at \$65

### Software Included!



Photo Creator Kit	Digital Photography Kit	Green Screen Bulk with FREE Sony Movie Software	Basic Green Screen Video Kit	Premium Green Screen Video Kit
Includes: • 5x7' Muslin Green Screen • 720 Digital Backgrounds • Green Screen Wizard (PC/Mac) • Removable hanging hooks	Includes: • 5x6' Collapsible Green Screen • 720 Digital Backgrounds • Green Screen Wizard (PC/Mac) • 8' Aluminum stand	Includes: • Full-Body Chrome-key Green Screen Suit • Sony Movie Studio Platinum 12 software (PC)	Includes: • 10'x12' Muslin Green Screen Background • Sony Movie Studio Platinum 12 software (PC)	Includes: • 10'x12' Muslin Green Screen Background • Sony Movie Studio Platinum 12 software (PC) • Portable Background Stand
DBSK100	DPK100	SMALL: VIDSMD LARGE: VIDSLG	VID1012	VID1024-PAS

## Mat, Mount & Presentation Board

### TruBlack Presentation Board



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11"x14"	100 QTY	414002
16"x20"	100 QTY	414004

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Pressure Sensitive		
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16"x20"	100 QTY	30054

### Black/White Cut Size Mat Board



Savage Cut Size Mat Board is made from the finest cream core pulp and acid-free papers. 4ply/40pt thickness.

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#### BIRD'S EYES VIEW

We've never seen anything quite like this image from *Shutterbug* reader Lorenzo Cassina, which is why we love it. "Getting personal with animals is a privilege for me," Cassina says. "This cormorant was perched in a low tree branch allowing me to capture this unique close-up shot. It was photographed at Flamingo Gardens in Davie, Florida, where animals in distress are well cared and loved for life. I volunteer my photography to bring awareness of their noble and silent work." He shot the photo with a Nikon D80 and a Nikkor 18-200mm lens at 1/125 second, f/5.6, ISO 100. You can see more of Cassina's work at [lorenzo-cassina.artistwebsites.com](http://lorenzo-cassina.artistwebsites.com).

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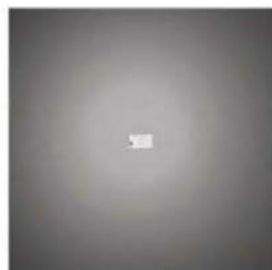
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**FIGURE ONE • DIRECT**  
COVERAGE ANGLE = 30°  
F32+ @10', ISO100, 640WS  
F5.6 @ 80', ISO200, 640WS



**FIGURE TWO • W/DIFFUSER**  
COVERAGE ANGLE 120°  
F11 @10', ISO100, 640WS  
F4 @30", ISO100, 5WS



**FIGURE THREE • W/20° GRID**  
COVERAGE ANGLE = 20°  
F8+3/10 W/DIFFUSER, 10'  
F22+6/10 W/NO DIFFUSER, 10'



**FIGURE FOUR • FACE VIEW**  
VERY EVEN ILLUMINATION  
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## FIGURE ONE . . . DIRECT REFLECTOR PATTERN

Very even 30° coverage with smooth feathering. Extreme output is ideal for overpowering the sun and for sports and other uses requiring long light-to-subject distances (f8 achievable at 56', ISO200 for gyms, etc.).

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Also useful for high-key shooting in the studio and on location, from a modestly large, punchy light source.

## FIGURE TWO . . . WITH INCLUDED 3-LAYER DIFFUSER SOCK

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Relatively low output and buttery-smooth coverage make this configuration ideal for beauty dish style, close-in lighting (f4 is achieved at 30", 5WS, ISO100).

We suggest using the OMNI™ plus diffuser in place of beauty dishes or softboxes for many shooters. Still more control and 6/10f lower output is obtained by adding the accessory 20° grid spot.

## FIGURE THREE . . . PATTERN WITH OPTIONAL 20° GRID (optional 20° honeycomb grid sold separately) \$79.95

Use the grid directly on the OMNI™ for high output Hollywood style selective lighting with superior spill control and isolation.

For close-in mood lighting, place the grid over the triple layer diffuser to further reduce the output to achieve high fall-off, high contrast, low key lighting effects. Reduces the light output another 2/3f stop, allowing even closer placement at wide-open apertures. No "dark center" typical with beauty dishes.

## FIGURE FOUR . . . FACE VIEW WITH INCLUDED DIFFUSER

OMNI™ is designed such that the light rays strike the surface of the included diffuser evenly - from center to edges. This detail is ignored in most other reflectors.

The result is a degree of evenness across the diffuser face that is unrivalled by the best softboxes or beauty dishes, yielding an extremely even, perfectly round light-source for great catchlights and beautiful rendering of reflective objects such as silverware, vases, etc. High diffusion reduces light output to allow low depth-of-field shooting with close light-to-subject distances.

Adding the optional 20° honeycomb grid (sold separately) over the diffuser further reduces output and eliminates spill light for even closer lighting, enhanced mood and soft/selective lighting.

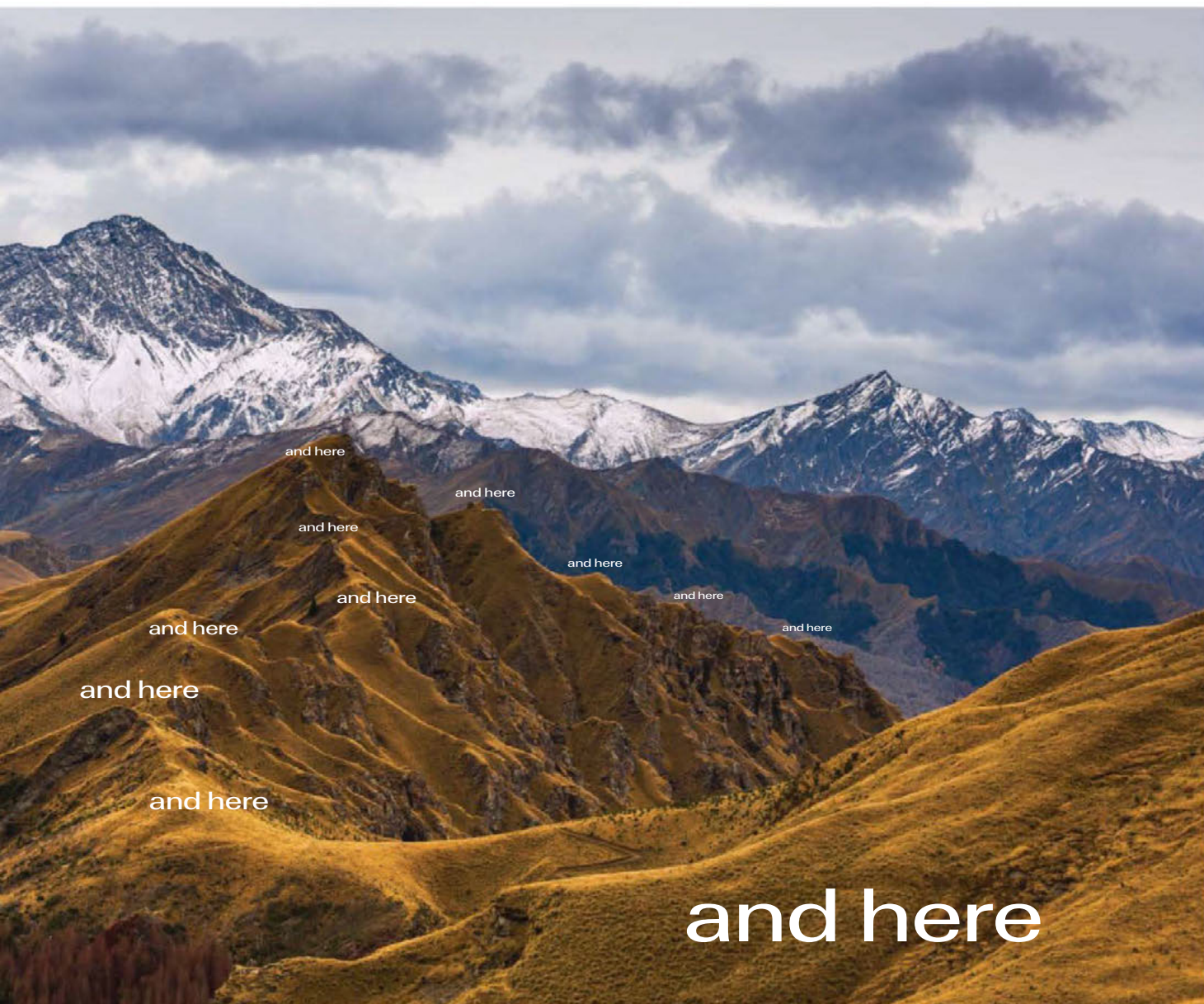
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